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The Health Bulletin

Published by THE NORTH CAROLINA STATE BOARD OF HEALTH

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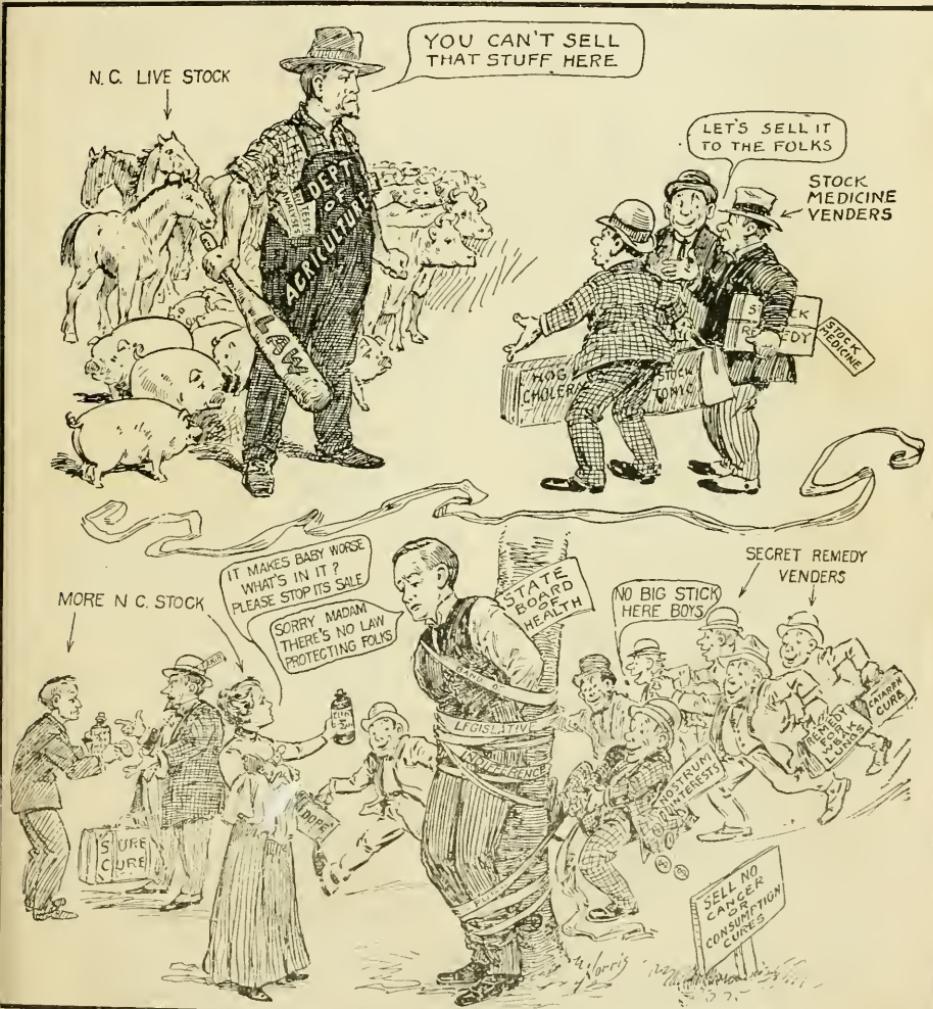
Entered as second-class matter at Postoffice at Raleigh, N. C., under Act of July 16, 1894.

Published monthly at the office of the Secretary of the Board, Raleigh, N. C.

Vol. XXXIII

APRIL, 1918

No. 1



HOGS OR FOLKS, WHICH? SEE PAGE 3

ONLY THE PEOPLE CAN LOOSE THE BONDS

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FREE PUBLIC HEALTH LITERATURE

The State Board of Health has a limited quantity of health literature on the subjects listed below, which will be sent out, free of charge, to any citizen of the State as long as the supply lasts. If you care for any of this literature, or want some sent to a friend, just write to the State Board of Health, at Raleigh. A postcard will bring it by return mail.

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- Teeth, Tonsils, and Adenoids.*
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EDITORIAL

HOGS OR FOLKS, WHICH?

On the front cover page is our cartoonist's conception of a little North Carolina incident which occurred a few months ago when the State Department of Agriculture, acting under the law which protects hogs, horses, cattle and chickens, revoked the license of one or more companies to sell alleged hog-cholera preventative compounds which authorities found did not adequately protect.

We think this an excellent law. Valuable live stock should be adequately protected particularly at this time when food products are such a factor in the winning of this war. Feeding worthless medicines to hogs or live stock at a time when they are threatened with disease is akin to putting ground glass in the hay and oats furnished the horses and mules at our military camps. Robbing a farmer or stock raiser of money for such nostrums—well, consider the folks. There are scores of worthless nostrums calculated to filch hard earned money from the pockets of the sick and needy for every stock food nostrum vended and there are no laws giving the folks protection at all comparable to the hogs. The hogs should have such a law. They need such protection from the unscrupulous. All we are asking for at present is to promote the folks to the dignity and an equal standing with hogs in this particular. Hogs or Folks! Which?

SENTENCED TO PRISON OR STERILIZATION

One of the most respected and experienced judges in the criminal court at Chicago set a precedent, which is said to be the first of its kind, in giving a prisoner the choice between going to prison for a crime of which he was convicted by a jury or of submitting to sterilization. In offering this alternative from the bench, Judge Marcus A. Kavanaugh said to the prisoner, sixty-five years of age and a married man with children:

"If I send you to the penitentiary it means death to you in your present health. At the same time I dare not turn you loose upon the public, for fear this mania with which you seem to be affected may cause you to attempt a similar crime, and then I would be at fault. If you will submit to an operation, with the choice of the best surgeons by next Saturday, I will set aside your sentence. I cannot compel you to submit, and you will have a week to think the matter over. If you decide to do this, it will mean that you do not have to begin your sentence of from one to twenty years in the penitentiary."

The prisoner subsequently decided to be sterilized.

In commenting on the case the judge said he presumed he would be criticised for his proposition to the prisoner, but he wished neither to commit him to what really would be

a death sentence nor to expose the public to a repetition of his heinous offenses against little girls.

"One of my reasons for rendering the decision," he added, "was to draw public attention to a situation which has been disregarded too long. I believe all morons, the criminal insane and habitual criminals, both men and women, should be so treated. To my mind it is a crime against society that this class should be permitted to propagate their kind. As for those who commit outrages against women and female children, I advocate even more drastic measures, which would make repetition of the acts impossible. It is my hope that public interest may be aroused."—Survey.

SOLDIERS AND TOBACCO

The Institute of Hygiene reports that James the First declared that "No man can be thought able for service in the wars who cannot endure the want of tobacco," for in those days smoking was considered "alien to all military fitness." How does the spending of millions in the consumption of tobacco tally with recent calls to thrift by England? "Not only must the nation avoid the consumption of nonessentials, but must ever restrict the consumption of essentials to the limits of efficiency."

Is tobacco an essential? Does it feed the body, purify the blood, or increase the mental or physical efficiency? There are such things as tobacco cancer, tobacco blindness, tobacco heart, the mention of which reminds me that in the medical world there is, now, much professional difference of opinion as to the cause of heart troubles among soldiers, the key to which may be the use of tobacco.

Before our smokers used tobacco they never craved it, or felt any need

for it. Like the vodka, if they gave it up long enough, they would cease to desire it. The excuses offered for the use of tobacco are weak, same as all others that are made for the indulging of the various depravities of the age.—Leigh Hunt Wallace, England.

POPULAR MISTAKES

One of the most frequent mistakes among the uneducated, with regard to medicine, is the belief that what has done good in one case of disease is to be equally beneficial when similar symptoms happen in another. When an eminent physician has been called in, and has prescribed a medicine which has answered the purpose intended, and to all appearance has cured the patient, nothing is more common than for the precious recipe to be kept and lent to a long series of afflicted friends. Such benevolent quackery proceeds on the supposition that a disease called by the same name has the same symptoms in every case, and that a drug produces its effects as infallibly as an operation in mechanics, or a process of chemistry. It reduces medicine to the simplicity so much boasted by the mathematical physicians of the seventeenth century, who thought they had in many cases solved the problem—a disease being given, to find the remedy. But there is a preliminary problem equally necessary and difficult, that should be first solved: a patient being given, to ascertain his disease.—Dr. Macaulay's Dictionary of Medicine.

If your county is one of the lucky thirty-five to have medical school inspection this fall and winter, see that your child gets what is due him under the medical inspection law. If his examination shows that he needs treatment, see that he gets it.

LOW STATE DEATH RATE

The most unsentimental of all businesses, that of life insurance, has just awakened to the work that the Board of Health has been doing in North Carolina for several years, through the discovery that the death rate of the Tar Heel State is the lowest of any of the Atlantic commonwealths. Compiled census figures show:

Death rates per 1,000 in 1914:
 Maine, 15.6; New Hampshire, 16.3;
 Vermont, 15.0; Massachusetts, 14.7; Rhode Island, 14.7; Connecticut, 15.1; New York, 14.7; New Jersey, 14.2; Pennsylvania, 13.9; Maryland, 15.9; Virginia, 14.0; North Carolina, 13.2.

That these figures directly reflect the work of the health authorities in calling attention to sanitation, in immunizing against disease, in preaching the care of the body cannot be doubted. When it is considered that the population from which the showing is made is one that contains a large element of negroes among whom the death rate, especially the infant rate, is abnormally high, the result is akin to the marvelous.—Raleigh Evening Times.

THREE THINGS TO DO

The three most important health matters for every householder to attend to this spring is first, to thoroughly screen every door and window in the house, upstairs and down stairs. Also to screen the back porch if there is one. The second thing to do is to build a good first-class sanitary privy, preferably of the pit type or the septic tank type. The pit privy should be sheathed to a depth of one or two feet, made fly-tight and well ventilated. The tank type should hold at least 200 gallons of sewage and be well ventilated. The third important thing to do is to have the entire family vaccinated against typhoid.

TANLAC—THE MASTER MEDICINE

The following facts with regard to a much advertised medicine are supplied by the Michigan State Board of Health:

A new panacea for the cure of "all ailments of the stomach, kidneys, and liver, catarrhal affections of the mucous membranes, rheumatism, nervous disorders and the like," is offered to the public under the name of Tanlac.

The label on the bottle neatly avoids the pure drugs act by claiming to be only a "tonic and system purifier."

An analysis of Tanlac in the laboratory of the State Dairy and Food Department shows the following:

Alcohol	16.4 per cent
Glycerine	2.0 per cent
Licorice	Present
Aloes or cascara.....	Present
Gentian	Present
Alkaloids (Berberine)	Trace

The presence of a trace of tartaric acid shows that wine is the base of this medicine. The 16 per cent alcohol gives it the "kick" that makes a fellow feel good and ought to fill a long-felt want in "dry counties." Aloes is a laxative. Gentian is a bitter drug, a so-called tonic. If the reader wants to be cured by the Tanlac route at one-fourth the expense, let him get a quart bottle of good cherry wine. Then go to the local druggist and get 1½ drachms of glycerine and two drachms each of aloes, gentian, licorice, and cascara. Mix (if you wish) and you will have Tanlac so near that neither you nor the manufacturer can tell the difference. This formula will give four times the quantity found in an ordinary \$1 bottle of Tanlac. We say, "mix if you wish." For our part we dislike to spoil a good bottle of wine by mixing it with bitter drugs like aloes and gentian. Our personal advice to all desiring to try this panacea would be to drink the bottle of wine and give the drugs to the hired girl.

LARGE SCARS AND SORE ARMS UNNECESSARY

Complications Following Smallpox Vaccination Avoided by Careful Technique

 HE big scar and the painfully sore arm that follows vaccination against smallpox in many cases are now known to be to a large extent preventable by observing certain rules and methods in administering the vaccine. Scientists say now that a "successful take" does not necessarily require either a very big scar or a very sore arm. On the other hand they say that these extreme results are often due to two or three things—the vaccination wound is often made too large, it often becomes infected at the time of vaccination or soon after, and it does not receive the proper treatment during the reaction.

The United States Public Health Service advises the following procedure in order to secure the best results from vaccination and to prevent possible complications.

I. The Vaccine

The freshest possible vaccine should be obtained. All vaccine packages, pending use, should be kept in a metal box in actual contact with ice.

II. The Vaccination

Vaccination should never be performed by cross-scratching or scarification, but by one of the methods described below. If a prompt "take" is very necessary, as in case of direct exposure to smallpox, or if the first attempt has been unsuccessful, three or four applications of the virus should be made, but the insertions should be at least an inch apart. Which ever method is used a control area may be first treated similarly, but without the virus, in order to estimate the amount

of pressure necessary for insertion and in order to demonstrate a possible early immune reaction in previously vaccinated individuals.

Preparation

The skin of the upper arm, in the region of the depression formed by the insertion of the deltoid muscle, should be thoroughly cleansed with soap and water if not seen to be clean, and in any case with alcohol or ether on sterile gauze.

After evaporation of the alcohol or ether, a drop of the virus should be placed upon the cleansed skin. To expel the virus from a capillary tube, the tube should be pushed through the small rubber bulb which accompanies it, wiped with alcohol, and one end broken off with sterile gauze; the other end may be broken inside the rubber bulb. The hole in the latter should be closed with the finger as the bulb is compressed to expel the virus.

The under surface of the arm is grasped with the vaccinator's left hand so as to stretch the skin where the virus has been placed. The skin is kept thus stretched throughout the process.

Methods

(a) *The method of incision, or linear abrasion.*—By means of a sterilized needle or other suitable instrument, held in the right hand, a scratch, not deep enough to draw blood, is made through the drop of virus, one-quarter of an inch long and parallel with the humerus. The virus is then gently rubbed in with the side of the needle or other smooth, sterile instrument. Some blood-tinged serum may ooze through the abrasion as the virus is rubbed in, but this should not be sufficient to wash the virus out of the wound.

(b) *The drill method.*—A sterile drill, such as is used for the von Pirquet cutaneous tuberculin test, shaped like a very small screw driver with a moderately sharp end not more than 2

millimeters wide, is held between the thumb and middle finger, and with a twisting motion and moderately firm pressure, a small circular abrasion, the diameter of the drill, is made through the drop of virus; this should draw no blood.

(c) *The multiple puncture method.*—A sterile needle is held nearly parallel with the skin and the point pressed through the drop of virus so as to make about six oblique pricks or shallow punctures, through the epidermis to the cutis, but not deep enough to draw blood. The punctures should be confined to an area not more than one-eighth of an inch in diameter.

With methods (a) and (b) it is advisable to expose the arm after vaccination to the open air, but not to direct sunlight, for 15 minutes before the clothing is allowed to touch it. With method (c) the virus may be wiped off immediately.

III. The Vaccination Wound

1. The original vaccination wound should be made as small as possible, and all injury to the vaccinated arm should be guarded against. Any covering which is tight, or more than temporary, tends to macerate the tissues during the "take." This is to be avoided. No shield or other dressing should be applied at the time of vaccination. Customary bathing and daily washing of the skin may be continued, so long as the crust does not break. The application of moisture to the vaccinated area should not be enough to soften the crust.

If an early reaction of immunity is to be watched for, the patient should report on the first, second, fifth, and seventh days after vaccination. Otherwise, the patient should report on the ninth day, or sooner if the vesicle, pustule, or crust breaks. Every effort should be made to prevent such rupture. However, should the vesicle, pustule, or crust break, and the wound

thus become open, daily moist dressings with some active antiseptic, such as mercuric chloride or dilute iodine (one part tincture of iodine in nine parts of water) should be applied. Under no circumstances should any dressing be allowed to remain on a vaccination wound longer than 24 hours, and no dressing should be applied so long as the natural protection is intact.

On account of possible fouling by perspiration and to lessen the chance of exposure to street dust, primary vaccination should be performed preferably in cool weather.

In order to encourage proper surgical treatment, no charge should be made for the aftercare of a vaccination nor for revaccination in case the first attempts should prove unsuccessful.

Although apparently trivial, vaccination is an operation which demands skill in performance and care in after-treatment in order to avoid the rare, but serious complications. For the prevention of these complications vaccination (a) should be performed with strictly aseptic technique, (b) should cover the smallest possible area for each insertion, and (c) should be treated without any covering which permits maceration.

A child should be vaccinated by the time it has reached the age of 6 months, and the operation should be repeated at about 6 years of age and whenever an epidemic of smallpox is present.

CANCER NOT INHERITED

Men and women who are in anxiety of mind on account of the appearance of cancer in their ancestry or immediate family may dismiss such anxieties, as there is no statistical evidence at the present time that the disease of cancer is transmitted by inheritance in mankind.



PUBLIC HEALTH AND SANITATION



SCHOOL EPIDEMICS

How to Control Them

CONTAGIOUS diseases are largely school diseases. That is, they occur most frequently among children of school age, they are spread by school children and at the same time they can be most effectually handled through the agency of the schools. Here are some recent facts. Last August there were reported only 638 cases of contagious diseases in the State. As the schools opened September showed 808 cases. In October this was increased to 1,092; in November to 1,109 cases; December, 1,567 cases; January, 3,158 cases; February, 3,134 cases; and March, 3,600 cases.

Cold weather in itself is not responsible for this alarming increase. Infestation or the germs of contagious diseases are spread with much more difficulty in cold than in warm air. Ordinarily the germs of such diseases flourish outside the human body much better in summer weather than in winter weather. This is a matter of temperature.

The real reasons why we have so many more cases of contagious diseases during school season than at other times is not hard to find. At schools we have assembled many children from many families in many conditions of health and sickness all in the same room. The actual personal contact is much closer and the danger of well children breathing in the tiny particles of spray coughed, sneezed and spit out by carriers or sick children is far greater when they are housed up close together, frequently in a more or

less unventilated school room, than it is when they are living and playing out of doors in oceans of fresh air.

In our schools as soon as cold weather begins to come on many teachers begin to close the windows to remain closed until the advent of warm weather. This is all wrong. It is wrong for two reasons. In the first place, it shuts in any possible infection that any of the pupils may have and instead of having it diluted by fresh air and wafted away through open windows it becomes necessary for other children to breathe over and over this stale, vitiated air that should have been quickly diluted and removed. In the second place, by shutting off the supply of fresh air it reduces the vitality and resistance of all the children and quicker and more easily than they otherwise would.

The Solution

The remedy for such a problem is for the most part self-evident. Have good school sanitation. That is, have good ventilation in the school room at all times. Keep at least some of the windows partially open at all times. Do not be afraid the children will catch cold. Colds are never caught from fresh air. It is from stale, second hand air into which some one else has been coughing, sneezing or spitting that colds are caught. This is a very important fact for every teacher to bear in mind and to endeavor to impress upon her pupils.

Besides providing good ventilation the teacher should use every means at her command to induce her pupils to shield the mouth and nose with a hand-

kerchief when coughing or sneezing when in a room or near anyone else.

Teachers should also forbid the use of the common drinking cup, dipper, or roller towel, or exchanging bites or eating from the same piece of food or the putting of pencils in the mouth or exchanging pencils at all times, particularly when there is a possibility that a contagious disease may exist in the community.

Since measles and some of the other contagions are ushered in by symptoms very similar to an oncoming cold and since the infectious material in the case of measles and some of the other contagions are transmitted through the secretion of the nose and throat teachers and principals should watch carefully every case of possible onsetting cold, sore throat or coughing, particularly if a contagious disease is known or suspected of being present in the community. Furthermore, upon finding a pupil who has not had measles, or a particular contagious disease, exhibiting symptoms of that disease or indications of an oncoming cold it becomes the duty of the teacher or principal to immediately exclude such a pupil from school until the symptoms have disappeared or at least for a period of one week.

Likewise the teacher or principal should exclude from school all children who have never had measles (or any of the contagions) who live in families in which the disease exists.

The teacher can do much to check the spread of an epidemic by distributing literature on the particular disease in question which can be obtained from the County Quarantine Officer and by explaining the nature of the disease and how to avoid it to the pupils.

The above suggestions and the authority for enforcing them are embodied in the rules governing teachers and principals upon the appearance of a case of a contagious disease in the school community and failure to en-

force them is punishable by a fine or imprisonment.

If our teachers will follow these simple precautions contagious diseases will affect our schools but very little in the future as compared with the ravages they have wrought in the past.

WHERE IGNORANCE IS CRIMINAL

Fifty years ago it was a common belief that every child must have measles and mumps, scarlet fever and whooping-cough before he "grew up," and the earlier in life each one took his turn the better it would be for him. Not infrequently mothers took their little ones to visit a sick neighbor in order to expose them to the disorder because it happened the epidemic was light in form and the season favorable. Now it is known that children grow up stronger and in better health if these diseases are altogether avoided, and that if it should happen that any are so unfortunate as to "catch" them, the older and stronger they are at the time, the greater probability of going through the disease unscathed. We now know that whooping-cough alone kills ten thousand children in the United States every year, and that others who do not die from it have their bodies so weakened as to be unable to resist other serious maladies. Measles and scarlet fever take equal or greater toll, besides leaving their victims with maimed ears and eyes and throats.

"You will agree with me that it is easier for us to keep men healthy than it is for a physician to cure them."—*Lord Nelson's Dispatch to the Admiralty.*

There are constantly about 1,500,000 Americans ill with preventable diseases.

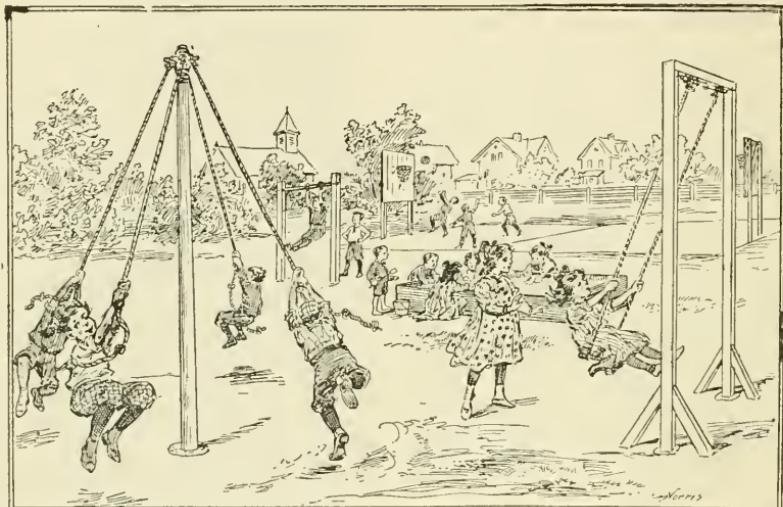
PLAY IS THE THING

Children Must Have More Play for Proper Development of Health, Character and Morals

PLAY is as essential to a child as work is to a man. He needs it for growth. He needs it not only for his proper physical development, but for his mental and moral development as well. Someone has said that the boy without play today is the man without a job tomorrow. Play is no

obey orders. He can never be a leader who cannot himself follow.

Play is a factor so important in the health and educational life of a child that Dr. Woods Hutchison says: "Rather a play-ground without a school than a school without a play-ground." Regardless of whether one wholly agrees with Dr. Hutchison's views or not, the playground is what is needed to counteract the stress and strain that children are likely to suffer not only from reports and conditions dealing with the war but also from the in-



longer looked upon as a useless luxury for children, as a time-killer for youth, but parents, teachers, and even law-makers, are now beginning to look upon children's play as a necessity—something they *must* have if they grow up into strong healthy, happy men and women.

Play teaches children team work. Boys that can play together today can work together tomorrow. It teaches them fairness. Honesty is nowhere put to the test that it meets on the playground. Play on the square is the first rule of the game. It teaches respect for authority. The first marks of a good soldier is his willingness to

creased efforts that are being required of children to make for themselves a more thorough mental and physical equipment for the future. Tomorrow will need men and women with sound minds in sound bodies, with highly trained intellects supported by strong, healthy sinews and nerves. The children of today will be the men and women of tomorrow and whether they be prepared to meet the more trying problems of the war that will fall to their lot depends largely upon the training that is given them today.

A playground for every school, play space for every child, and every child playing at playtime, is the program

that should be carried out at every schoolhouse in North Carolina this spring. The little sum of money needed to provide sand-boxes, swings and teeter-boards for the little children as shown in the accompanying cut, and ball fields, tennis courts and horizontal bars for the older children, will be small indeed compared to the vigor of mind and body that will be readily noted in the children who play. No school that stands for service to the child can afford to neglect this part of its necessary equipment and no teacher can afford not to have her pupils recreate their minds and their bodies every day.

HOW AN EPIDEMIC DEVELOPED

And Why It Should Not Develop

Two children were unavoidably exposed to measles a few weeks ago, became infected and in due time developed a cold. The mother, knowing that her children had been exposed, said "They may have measles, I don't know, but they haven't broke out yet." The children were allowed to attend school until they did "Break out." Several families repeated the same procedure and an epidemic of measles developed. No intelligent effort was made in the beginning when the disease was most contagious to prevent other children being infected. As in most cases it was in the initial, doubtful stage of the disease, the stage of the oncoming cold, cough, reddened eyes, the earliest symptoms, while the mother was pending a confirmation of the diagnosis by the "Breaking Out" when so many children become exposed and contracted the disease.

Some ignorant parents still believe that every child must have measles sooner or later and the sooner the better. This is a grave mistake. These parents do not know that 90 per cent

of all children who die of measles are less than 6 years of age. But because a large majority of deaths occur before six years of age is no reason why mothers should carelessly or intentionally expose a child of more than 6 to such a harmful disease. Every child who has measles suffers and runs the risk of losing its life.

But the killing off of a few helpless innocent children each year in practically every county in North Carolina from measles and other needless contagious diseases represents by no means all the havoc wrought by these diseases in coöperation with ignorant parents who criminally thrust their helpless children into the jaws of such diseases in order that they may "ketch it and have it over with." Such needlessly wanton sacrifice of child life is comparable only to the ancient criminal sacrifice of child life to idols and the gods by the heathen. But a very large number of the children who survive the disease itself, or its complications, are permanently injured in one or more ways which do not manifest themselves until years later in the form of heart troubles, weak eyes, deafness, weak lungs and a great many other ills and physical defects. Why should any parent think of needlessly handicapping a child for life in such a manner?

A further very important consideration in connection with spreading epidemics from schools is the fact that there are about as many babies and very young children at home as there are older children in school, and these older children all too frequently bring home contagious diseases to their younger brothers and sisters which frequently prove much more serious with the younger children than the older ones.

Since contagious diseases of childhood are not nearly so fatal or so serious with older as with younger children, everything possible should be

done to postpone the evil day and if perchance they can be prevented from having these diseases altogether, so much the better.

SEX HYGIENE

Don't marry your cousin.

Family intermarriages have a tendency to produce the blind, deaf, imbecile and crippled children.

There are 50,000 blind children in the United States. It is claimed that gonorrhea is responsible for 12,000 of them.

The father or mother who does not believe in sex hygiene education may invite the destruction of son or daughter.

Women and children are the innocent victims of venereal diseases.

There is no more reason why the average healthy young woman should be hauled to a hospital a few weeks after marriage than there is a necessity of a dispensary for cats.

Every man and woman should make a confidant of some reputable physician and seek advice on questions that can best be answered by such physicians.

"Syphilis" was the name of a shepherd in an old Latin play. He was cursed with an ugly disease for offending the gods. The word means "dear hog." This disease has proved a "dear hog" to an unfortunate humanity.—*Buffalo Sanitary Education.*

TYPHOID BACILLUS CARRIERS FOR OVER FORTY YEARS

Some years ago, as the result of an epidemiological investigation of an extensive outbreak of milk-borne typhoid fever in New York City, an outbreak embracing more than three hundred cases of the disease, a typhoid bacillus carrier was discovered in the person of a dairyman operating in a small village in Central New York. The note-

worthy feature of the case was the fact that this carrier had had his typhoid infection forty-six years previously when a young man. He was kept under observation both by the City Health Department and the local health officer for four or five years, when he died of heart disease. But bacteriological stool examinations made from time to time during this period of observation showed that he remained a carrier.

As the result of an investigation of a recently reported case of typhoid fever occurring in this same city, there has been discovered another typhoid bacillus carrier in the person of the mother of the patient, a woman aged 76 years, who had typhoid fever forty-nine years ago. No other members of the patient's family, friends, or relatives, gave a history of typhoid fever, and it is very probable that this carrier constituted a source of infection in this case. The bacteriological stool examinations were made by the Research Laboratory of the New York City Health Department.

These two cases indicate how searching must be the investigation of a suspected carrier's history and how long a time the carrier state may persist.

OPEN-AIR SCHOOLS

It has been computed that more than two hundred open-air schools and classes for tuberculous and anemic children were in operation at the opening of the school term last year. Massachusetts led the list with eighty-six, eighty of them in Boston; New York had twenty-nine and Ohio 21. North Carolina had but two or three. It is estimated that there should be in the cities one open-air school for every 15,000 population. According to this statement North Carolina should have a dozen or more.

PHYSICIAN FOUND GUILTY

A physician of Buffalo, New York, was convicted in city court for failing to report a case of scarlet fever. The father of the patient conducted a store on the premises, and apparently did not want his business injured or his family inconvenienced, so no physician was called until the patient was dying from acute nephritis. From the history and condition of the child the doctor readily made a diagnosis of scarlet fever. The child died soon after the doctor saw it. When an inspection was made by the Department of Health another child was found to be desquamating from scarlet fever.

In court the doctor justified his action in not reporting the case on the grounds that he did not treat the patient for scarlet fever, but for one of the sequellae, but the court promptly found him guilty of violating the law which requires every physician to report to the local health officers all cases of communicable diseases within twenty-four hours from the time when the case is first seen by him.

As a result of the failure to report this case the house was filled with people who had come to see the dead child and who did not know the cause of death.

MORE INTELLIGENT EXCITEMENT NEEDED

For Measles, Whooping Cough, Diphtheria and Scarlet Fever

 HERE has been much ado, there has been much running to and fro, much offering of prizes for miraculous cures developed on short notice, and much newspaper and other talk over the alleged presence of an epidemic of anterior poliomyelitis. It is quite right that there should be

active agitation over this disease, but the only reason that there is this unusual stir is that infantile paralysis is uncommon, and that its epidemics are, for this country, comparatively new. We have had diphtheria and measles and scarlet fever with us for a long time, and yet, we believe, no large prizes have been offered for their cure, no specialists have been hurried to the scene of the epidemic to see what could be done to check its spread, and the National Government has never had a hand in its suppression. Even local authorities have seldom taken the trouble to clean up on a large scale in order to check an epidemic of these diseases. Yet the death toll from diphtheria is still approximately 25,000 for the United States each year, the mortality from scarlet fever is six times that from anterior poliomyelitis, while its annual incidence in all our cities usually far surpasses that of the worst outbreaks of the more unusual malady. Even tuberculosis, about which there was a wave of excitement some time ago, is fairly holding its own with a death-rate reduced only from 201 to 147. Infantile paralysis is always present in the community, but it leaves a large percentage of cripples in its wake, and so seems the more dreadful. Doubtless this has something to do with our fear of it, but the crippling from scarlet fever alone, the impaired hearing, damaged kidneys, and heart defects, if not so evident, is more serious than an abbreviated and weakened limb, and the army of scarlet fever cripples is larger than we realize. The same is true of measles, diphtheria, whooping cough, typhoid, and malaria.

We become attached to old acquaintances, especially those that were once believed to have been sent for our chastisement and the correction of our evil ways, and perhaps, after all, we like to have the plagues (no one calls

them such) of the good old infections with us. At any rate, no one is making any great fuss about them commensurate with that which is being made over this less common and less destructive disease.

Our dollars and cents seem very precious and we use them for other purposes than health protection. We cannot, or at any rate do not, afford even a national department of health, though we do have a department much devoted to the health of plants and animals. We often have no local health departments, and where we have them they are usually badly hampered for lack of both funds and moral support. If popular agitation over the presence of anterior poliomyelitis could only help to open the eyes of the public to the more disastrous but more familiar sources of untimely injury and death—to our other annual disease plagues—we might even be thankful for it.

PASTE THIS ON YOUR MIRROR

The soldier has twenty-nine chances of coming home to one chance of being killed.

He has ninety-eight chances of recovering from a wound to two chances of dying.

He has only one chance in 500 of losing a limb.

He will live five years longer because of physical training.

He is freer from diseases in the army than in civil life.

He has better medical care at the front than at home.

In other wars from ten to fifteen men died from disease to one from bullets.

In this war one man dies from disease to every ten from bullets.

This war is less wasteful of life than any other in history.

WHAT VACCINATION WILL DO

One part of the land surface of the globe under the care of the United States has no anti-vaccination society. The reason is that they have had a chance to see what a vast change for the good has been effected by universal vaccination.

In the Philippines under Spanish rule there were about 40,000 smallpox deaths yearly, and 6,000 in Manila every year. Although the people were at first bitterly opposed to it, measures for vaccination have been carried out in a most successful manner. So rapid were the results that since 1906 there has not been a single death from smallpox in Manila, and the mortality in all the islands has dropped from 40,000 to 700 per year. Over 10,000,000 of Filipinos have been vaccinated without a single death, and where originally they fought the measure viciously, they have now learned to attribute the results to it, and seek vaccination with avidity.

Sixty Thousand Dollars has been appropriated by Governor Stevens of California from the State War Emergency Fund, for the suppression of venereal diseases. The State Health Officer, Dr. Sawyer, has directed county supervisors of health to provide in their annual budget for hospital facilities for the care and isolation of persons suffering from venereal diseases. This is certainly an advanced step and California deserves high commendation. We especially commend Governor Stevens for the beneficent forward step he has taken.

People who will not get vaccinated are welcome to their smallpox and their quarantine.

PERSONAL HYGIENE



KNOW HOW TO LIVE

Bad Personal Habits Responsible for Wear-and-Tear Disease.

The wear and tear diseases are the by-product of civilization. For instance, one of the boasts of civilization is the abundance and variety of the foods it provides, and yet it is to this very abundance and variety that we must attribute a large number of the degenerative diseases which afflict the human organism. For instance, it is through soft foods that our teeth become diseased and invite disease throughout the body, because the teeth lack exercise.

Again, civilization boasts of the advantages of houses. But as an offset to these advantages we have the dreadful scourge of tuberculosis, a house disease, especially frequent where overcrowding and dark-roomed tenements abound.

And so the invention of the chair which affords great comfort is, at least, partly responsible for nervous prostration and other breakdowns, because the chair is not made to fit the curve of the back; and even when it does, the person sitting in it does not take the trouble to place himself properly.

The possibilities of self-improvement through learning how to live are far beyond what any one who has not gone over the evidence realizes. The evils of bad air, bad food, imperfect teeth, wrong posture, improper clothing, constipation, self-drugging, alco-

holism, etc., are now overlooked by ninety-nine persons out of a hundred.

Four Rules for Hygienic Living

The first step toward the hygienic life for the individual is the undergoing of a thorough physical examination. The next step is to learn the lesson of that examination, to find out the slightest impairment and correct it. The third step is to learn the rules of hygienic living and apply them so faithfully that no further impairments will develop. The Life Extension Institute, through its Hygienic Reference Board of ninety specialists, has formulated such a set of rules for the direction of the individual who wishes to live a hygienic life. If lived up to conscientiously, one may feel satisfied that he is following the best knowledge of the day. These rules are:

I. Air: Ventilate every room you occupy; wear light, loose and porous clothes; seek out-of-door occupations and recreations; sleep out, if you can; breathe deeply.

II. Food: Avoid overeating and overweight; eat sparingly of meats and eggs; eat some hard, some bulky, some raw foods; eat slowly.

III. Poisons: Evacuate thoroughly, regularly and frequently; stand, sit, and walk erect; do not allow poisons and infections to enter the body; keep the teeth, gums, and tongue clean.

IV. Activity: Work, play, rest and sleep in moderation; keep serene.—Prof. Irving Fisher of Yale University.

SPRING FEVER AND WHEAT BRAN

The cause of about two-thirds of all this so-called "Spring Fever" is that the victim has been gorging himself all winter long with heavy, concentrated, constipating foods, or "throwing in too much brickbats and mortar," as a busy physician remarked recently, and when spring comes along these sluggish physical machines are all clogged and gummed up with last winter's debris and are not geared up at all for spring and summer conditions.

To relieve this tired, sluggish, lazy feeling there is probably nothing so generally effective as good, free, healthy bowel action at least once a day—many prefer twice a day. Pills, castor oil, salts, and the whole line of purgatives are just so much dope. They stimulate and excite action for the time being, but they leave the source of the trouble worse than before. A real cure will be effected only when the individual corrects his habits of living, particularly his habits of diet and exercise. Let him drink eight or ten glasses of water daily, or even more in hot weather; let him get plenty of exercise, particularly the kind that exercises the muscles of the abdomen, and above all, let his diet consist of fruits, vegetables, and bulky material.

In regard to a very valuable bulky diet, we can do no better than quote a few paragraphs from an article by Dr. A. M. Hughes, of New York City:

"Every woman should know that if wheat bran is taken daily it will clear up the so-called 'liver-spotted' skin. It is, in reality, a better beautifier than any cosmetic, face powder, or other external compound on the market. Bran beautifies the skin by correcting the trouble that has brought about the poor condition of the skin. A poor complexion is caused by stomach trouble or by some trouble that is pri-

marily brought about by poor digestion, and especially by constipation.

"Wheat bran is the king of laxatives. There are stronger laxatives that should be used in various emergencies, but for a laxative that can never harm you in the least, nothing compares with wheat bran. There are other ailments, all allied with the stomach, that wheat bran will cure; and it is now admitted that this simple laxative will actually improve anemia.

"There are a good many ways to take wheat bran. The simplest way is to stir two tablespoonfuls in a glass of cool water and drink it every morning. Another method is to mix it half and half with your cereal and eat it in that manner; or, better still, pour a rich cream over the dry wheat bran in a saucer, sprinkle with a bit of salt and eat it without sugar. There is nothing unpleasant about it, and people get so that they are really fond of it, although at first it seems insipid, dry and tasteless.

"If children do not care for it in this form, make it into a gruel for them, and also serve it in a soup. You may also mix it thoroughly with marmalade, honey, maple syrup, or other suitable table syrups, and spread it on bread for children.

"For constipation, one may take as much as a cupful daily until relieved; but for a general clearing of the skin four heaping tablespoonfuls daily will suffice. Do not expect that after you have taken this three or four days you are going to look into the mirror and find that you have the complexion of Lillian Russell. Wheat bran is a laxative and a beautifier, but not a miracle worker. Take your wheat bran every day without fail for six months. Then look in the glass and you will notice a difference. You will also notice a difference in your health, and this difference will be to your advantage, for nothing serves as well as wheat bran to keep the bowels in order.

"Pure wheat bran makes such a perfect laxative because it is made up for the most part of indigestible cellulose, which is non-absorbable. For this reason the bran takes up a large amount of water and swells, which adds to the bulk in the stomach and intestines, and thus quickly and easily removes all the deadly toxins or poisons that gather in the stomach and intestines. In brief, this wheat bran overcomes and prevents putrefaction and absorbs the poison.

"Expectant mothers are, in almost every instance, constantly in need of a proper laxative. To keep their bowels in a proper condition is one of the most important things they can accomplish, and only in very recent years have physicians taken advantage of the perfect qualities of wheat bran and ordered its use.

"Eruptions of the skin with the adolescent is the rule rather than the exception. This is frequently caused as a result of too rapid growth, which gives them a body out of proportion to their natural blood supply, and the blood, working to supply the overgrown body, becomes poor. There is nothing better than wheat bran to overcome this. For such young people one of the very best ways to take wheat bran is to stir four tablespoonfuls in a large glass of milk and drink it before the bran has an opportunity to settle. By doing this the young person couples the advantages of the laxative with the health-giving properties of the milk, and milk, it should be known, contains every element of a perfect food.

"Do not make the mistake so many people are making today, that is, of disregarding a remedy merely because it is so simple. 'Good Old Doctor Wheat Bran' may be simple, but there is nothing more effective for putting the bowels and stomach, and even the blood, into a healthful condition.

FIRST AID INSTRUCTIONS

Dr. C. W. Hopkins, chief surgeon of the Chicago and Northwestern Railway, gives the following instructions in regard to first aid to the injured:

Open Wounds.—Don't touch open wounds with bare hands.

Don't disturb blood clots or wash them away.

Don't try to cleanse and wash wounds.

Don't use a quid of tobacco or spider webs to stop bleeding.

Hemorrhage.—To control hemorrhage place the compress on the bleeding part and make firm pressure with the cambric bandage. Elevate the limb. If this fails, place a bandage around the limb, above the bleeding point, and twist with a stick until the bleeding stops. Secure the stick in position.

Don't use a tight bandage around the limb unless hemorrhage is active.

Burns and Scalds.—Burns and scalds should be treated in the same manner as open wounds. Cut the clothing away if necessary.

Don't attempt to remove pitch, varnish, or wax from a burn.

Don't use oils on burns.

Shock.—A person in shock has pale, clammy skin, weak pulse, sighing respiration.

Place patient on his back. Cover him up. Move him to the best place of shelter at once. If possible, apply external heat by means of blankets or hot water bottles or hot bricks. Be careful not to burn the patient.

Hot water, hot tea, or hot coffee, beef tea or broth are the best stimulants. Don't give him whiskey or other alcoholic stimulants.

Fractures.—If an arm or leg is broken, use splints composed of folded newspapers, pieces of board, or heavy pasteboard and secure in position with bandages or handkerchiefs. If the

arm is broken, place it in a sling. If the leg is broken, tie the legs together if no splint is available.

Don't try to set broken bones. Straighten to relieve pain, then apply splints.

Don't allow fractured limb to dangle in handling the patient.

Fits.—A person suffering from a fit should be kept quiet on the back. Loosen the clothing about the neck and abdomen, and be careful he does not injure himself.

A wedged handkerchief or piece of wood or cork should be placed between the teeth to prevent injury to the tongue.

Heat Exhaustion and Sunstroke.—In heat exhaustion the skin will be cold and clammy and the condition will be the same as shock; the same treatment will be required.

In case of sunstroke the body feels hot to the touch; is dry. Cloths wet in ice water, or in the coldest water at hand, should be at once applied to the head and body, and along the spine from the head downward, and frequently renewed. For the head, the application of cracked ice in a towel is recommended.

Foreign Body in Eye.—Foreign bodies should be removed from the lids only.

Don't touch the eye with dirty fingers or unclean cloths.

Don't try to remove a foreign body from the eyeball. Dirty toothpicks or dirty instruments are dangerous, and may cause serious results.

In General

Don't try to do too much.

Don't apply bandages too tightly.

Don't tell an injured person his condition is dangerous.

Don't uncover a wound after it has been bandaged. If it bleeds apply more bandages.

Don't apply a sling or splint until the wound has been dressed.

Don't soil dressings.

The two welfare movements, "Safety First" and "First Aid," on the part of organized combinations of industrial workers, must have their influence on less well organized industries and on legislation affecting workmen's compensation and on the organization of hospitals provided with facilities for the economic and efficient care of industrial workers.

HOW TO STOP WORRYING

Not all worry is preventable, but for the most part it can be avoided. Most of our fears are never realized, and, as a rule, if we meet our troubles day by day as they come without worrying about them before they arrive or fretting over them after they have passed, we will find that we have the strength to rise above them. Worry undermines the health to a certain extent. It really weakens the mental forces by tiring them out by doing nothing. Usually the relief from worry rests with the victim of this unhappy habit himself, but sometimes the real causes are not the ones which seem to explain the condition and we must go deep into our lives or have the assistance of those who are skilled in unravelling mental processes.

The best antidote for worry is a change of mental occupation, a getting away from the scenes which provoke worry, exercise in the open air, a good book, a pleasant recreation, or a temporary change of occupation. As a matter of mental health every sufferer from this unfortunate condition owes it to himself to discover some simple means of getting away from this habit which is destructive to health and peace of mind alike.—U. S. Public Health Service.

GASOLINE AS AN EMERGENCY MEDICINE

Gasoline is a good disinfectant for the treatment of wounds in emergency cases. In fact, gasoline is such an effective disinfectant that Dr. Dorothy Childs, in her lectures to classes in hygiene in the University of Kansas, strongly urges that an eight-ounce bottle of gasoline be kept in the family medicine closet for use in treating cuts and scratches.

The value of gasoline in cleansing wounds has been demonstrated on the European battlefields, Doctor Childs said, and it is especially good if the wound is lacerated or if the skin was dirty when the wound was made. After washing the wound with gasoline, paint with a tincture of iodine, suggests Doctor Childs. Use a small wad of absorbent cotton for the iodine "paint brush."

Every family should have a supply of emergency remedies at hand, and Doctor Childs suggests this list for the home medicine shelf:

Two-ounce bottle aromatic spirits of ammonia. This is a stimulant and good to use in case of fainting. Use as an inhalation, or put one-half teaspoonful in one-quarter glass of water and give internally. Eight ounces of gasoline, to be used freely to cleanse wounds. Two ounces tincture iodine to paint wounds and kill germs. One yard sterile gauze. One yard zinc oxide adhesive plaster, two inches wide. One yard zinc oxide adhesive plaster, one inch wide. One-fourth pound sterile absorbent cotton. One-half dozen gauze bandages, assorted sizes. Eight-ounce bottle saturated boric-acid solution to use as an antiseptic wet dressing for wounds and as an eye wash. Eight-ounce bottle peroxide of hydrogen, not to be relied on for serious wounds. One hot-water bag. One fountain syringe. One ice bag.

DON'T STAND SO MUCH

To many women it never occurs that much of the work they do can be done seated. In fact, many women feel that they are lazy unless they are standing up at their work.

How many women sit in a chair at a table with a pan of water in front of them when they have potatoes to wash and peel?

How many women sit down to wash or wipe dishes, even though a high chair must be made for this purpose?

How many women arrange so that they may be seated when they are ironing little things like handkerchiefs, that require no hard pressing?

Think it over, and learn to sit down.

SAFE GUIDE TO HEALTHFUL EATING

Is it necessary to know how many calories you are getting each day, or how many ounces of protein?

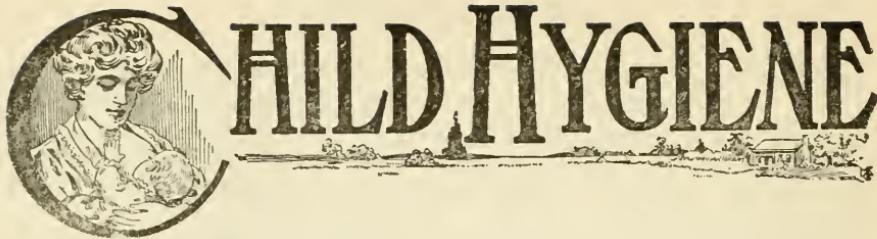
By no means.

The following rules will make it possible for you to feed yourself and your family without weighing your food or counting your calories:

Weigh yourself twice a month. If you are above the average weight, you need less fuel. If you are very light in weight, and losing weight, you need more fuel.

Try to have some bulky food, some raw food, some whole cereal, some fruit and some milk in your diet each day.

Eat high protein foods (meat, fish, fowl, eggs) only once a day in moderate amount. Have at least one or two meatless days a week. Cold weather and active physical labor calls for more heat and energy producing foods, while warm weather and sedentary habits usually call for more bulky fruits and vegetables containing less heat and energy and more bulk for the bowels to act upon.



SAVING MOTHERS

More Mothers Die From Incidents of Maternity Than From Any Disease—Neglect at Childbirth the Cause

MORE women from 15 to 45 years of age die from conditions connected with childbirth than from any disease except tuberculosis. About 15,000 deaths from maternal causes occur annually in the United States, and the available figures for this country show no decrease in the maternal death rate since 1900. Maternal deaths are largely preventable by proper care and skilled attendance.

These 15,000 deaths do not measure the full extent of the waste. They are merely a rough index of unmeasured preventable illness and suffering among mothers. Furthermore, certain diseases of early infancy are closely connected with the health of the baby's mother and the maternity care she has received, and these diseases cause about one-third of all the deaths occurring among babies under one year of age. More than 75,000 babies die each year from this group of diseases because they do not have a fair start in life.

The life and health of the mother are in every way important to the well-being of her children. Breast feeding through the greater part of the baby's first year is his chief protection from all diseases, and mothers are much more likely to be able to nurse their babies successfully if they receive proper care before, at, and after childbirth.

The expectant mother should at once consult a physician. She should remain under supervision so that any dangerous symptom may be discovered as soon as it appears. She should learn how to take care of herself, and she should have proper food and rest and freedom from anxiety. When the baby is born the mother needs trained attendance. A difficult maternity case is one of the gravest surgical emergencies. Many people do not seem to understand that in any case complications may arise which can be met safely by prompt and skillful scientific care, but which at the hands of an unskilled attendant may cost the life of mother or child or both. Even after confinement the mother needs continued supervision and rest until her strength has returned.

Thousands of mothers, both in city and country, do not have the essentials of safety, partly, perhaps chiefly, because they do not realize the dangers involved in lack of care, or else accept the dangers as unavoidable. Many women are at present unable to obtain proper care, but when all women and their husbands understand its importance and demand it for every mother, physicians will furnish it, medical colleges will provide better obstetrical training for physicians, and communities will see to it that mothers are properly protected.

Little has been done as yet to show women that much of the waste of mothers' lives and health is unnecessary. Even less has been undertaken by communities to provide protection

for them. Many communities which have studied their typhoid and tuberculosis death rates and have undertaken costly measures to reduce them have been heedless of the death rates among mothers. It is not strange, therefore, that since 1900 the typhoid rate for the country as a whole has been cut in half, and the rate from tuberculosis has been markedly reduced, while the death rate from maternal causes has shown no demonstrable decrease.

WHY REGISTER A BABY?

The registration of a child's birth forms a legal record that is frequently useful and may be of the greatest importance. It establishes the date of birth and the child's parentage. It may be required to establish the child's age for attendance at public schools or for a working certificate in States where restrictions are placed upon child labor; to show in courts of law whether a girl has reached the age of consent, or whether individuals have attained the age when they may marry without the parents' permission; to establish age in connection with the granting of pensions, military and jury duty, or voting. It may be important in connection with the bequeathing and inheritance of property, or to furnish acceptable evidence of genealogy.

AVOID EARLY HANDICAPS

Farmers dread having their growing crops dwarfed, stunted, or "set back" during the early growing season, and stock raisers avoid, if possible, any interference with the very best and fullest growth of their young livestock during the growing period. Why, then, should we not give our very best attention to the most perfect and unobstructed growth of our grow-

ing boys and girls? It is a sad commentary that many fond parents are unconscious that their little boys and girls are laboring under the handicap of defective hearing, bad teeth, poor vision, hookworm disease, malaria, anemia, etc., which is not only making mediocre or backward children out of them now, but which is permanently handicapping them in the long, hard race of life. Give your children a fair chance by encouraging medical inspection of schools and prompt treatment of defects found.

WHY NURSE YOUR BABY?

Because

Breast milk is always ready and is never sour.

Breast milk does not have to be prepared or measured.

It is nature's method and was intended for your baby.

It will make your baby strong and healthy.

It is absolutely free from germs and dirt.

It protects your baby from many infant diseases.

It is safer for the baby. Ten bottle-fed babies die to one fed on the breast.

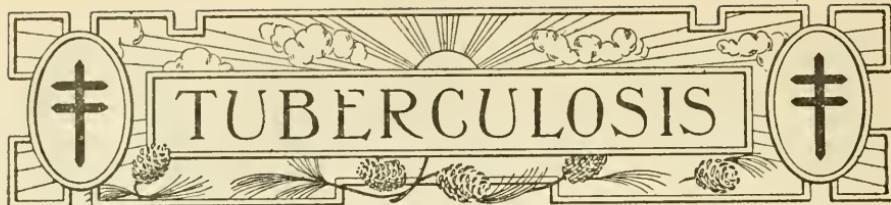
It is the only perfect food for the baby.

It contains the proper elements of food in the right proportion for the growing child.

Breast-fed babies seldom have bowel trouble, which is so fatal in bottle-fed babies, especially during hot weather.

Your baby will have the best chance of living if breast fed.

"Maternity is woman's exclusive profession. Like genius in any art or profession, successful motherhood is founded on efficiency and joy in the chosen work, and the greater of these is joy."—Anna Stecse Richardson.



HAVE EARLY DIAGNOSIS

Don't Wait Until You Are Sick to be Examined—"Delays Have Dangerous Ends"

UBERCULOSIS—the most common disease and the one which causes more deaths than any other—is rarely recognized until it is moderately advanced. If it is diagnosed early, it is curable. If not diagnosed early, it is terribly fatal.

the sand and believe that the disease cannot see them. The chief difference between knowing that you have tuberculosis and not knowing that you have tuberculosis is that, in the first case, you have a good chance of getting well; in the second, you have little chance of getting well.

If You Tire Easily and are "all played out," don't dope yourself with so-called "tonics" and stimulants. See your doctor and insist upon having a

"There should be no uncared-for tuberculous patient in any civilized community. The untrained and uncared-for tuberculous individual, whether he lives in a palace or in a tenement house, in a first-class hotel or a lodging house, will constitute a center of infection."

S. ADOLPHUS KNOPF, M.D.

Early tuberculosis or beginning tuberculosis is curable. The time to cure it, however, is in the earliest stage. The symptoms at that time may not cause one to suspect that there is anything the matter with the lungs. Without careful examination, the disease is not detected. When the patient waits until he believes he has "lung trouble," it is often too late for cure. The man with the earliest diagnosis is the one with the best chance of getting well.

Some people delay seeing the doctor because they do not want to be told that they have tuberculosis. Like the ostrich, they stick their heads in

thorough examination. Weariness is usually the first sign of tuberculosis.

If You "Catch Cold" easily, if your voice gets "husky," if you have "cattarrh," or—

If You Cough frequently, or have to "clear your throat"—don't take "cold cures" or "cough medicines." See your doctor and be examined. Consumption usually gains its foothold while the victim is doctoring himself and deceiving himself.

If Your Appetite is poor or "finicky"—good one meal and poor another—don't take "appetizers," "stomach medicines," or "tonics"; but see your doctor and find out why.

If You Have Indigestion, don't delude yourself with "dyspepsia tablets" or any other medicines. Even if they give relief, they do not remove the cause of your trouble.

If You are a Little Feverish in the afternoon, don't guess at the cause. Don't believe it is "just a little malaria." See your doctor.

If You Spit Blood, don't assume that it is from the gums or your throat. Probably it is not. Spitting blood is too important a matter to guess about. See your doctor and find out the cause.

If You are Losing Weight or are below your natural weight, there is some cause for it. Do not feed your stomach with oils and fats and other "fat-tening foods." See your doctor.

to strip to the waist before examining your chest. Do this cheerfully. He may want to make tuberculin tests. These can do no harm and may give valuable information about your case. The best physician in your community is none too good to determine the condition of your health. If you wanted a mechanic to repair a high-priced automobile, you would select the best mechanic you could find. A healthy body is worth more to you than the best automobile ever built.

Any one of the symptoms named above may be the first evidence of tuberculosis. If, after careful examination, your doctor tells you that you have tuberculosis, your chance of getting well is excellent, since the diagnosis is made early. If your doctor

That every person in North Carolina suffering with tuberculosis must be discovered and must be so supervised and cared for that he will have the best possible opportunity for recovery, and so that he will not be a menace to his family and friends or the stranger that is within our gates.

BUREAU OF TUBERCULOSIS, STATE BOARD OF HEALTH.

If You are Nervous, or have had a nervous breakdown, be sure there is not a physical cause—like tuberculosis—at the bottom of it. Nervousness is often the only sign of very early tuberculosis.

If You Have Any One or More of These Conditions, do not try to doctor yourself. See your doctor and be examined. See that you get a thorough examination.

A careless examination is worse than no examination. A thorough examination will take your time and the doctor's time. He will make a careful history of your case. Answer his questions accurately. He will require you

tells you that you have not tuberculosis, that assurance will be worth much to you.

Many of the wisest and most prominent men in the country have their doctors examine them at frequent intervals. Through careful examination when you are not sick, the first evidence of trouble may be detected and much trouble prevented.—Illinois Health Bulletin.

"Before any real progress will be made in the battle against the Great Plague, we must get the whole people aroused to fight this enemy which threatens the integrity of the race."—Dr. J. H. Kellogg.

SYMPTOMS OF TUBERCULOSIS

Many people die of tuberculosis because they don't know they have it until it is in an advanced and practically incurable stage. The earlier tuberculosis is recognized and the cure begun the easier it is to cure. It has been found that of the *very early* cases of tuberculosis found and promptly and properly treated, 91½ per cent recovered. Of the *moderately advanced*

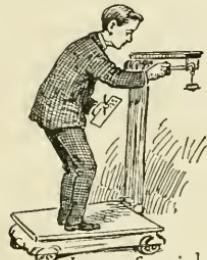
tions of the laws of hygiene reduce one's physical vitality and render him much more susceptible to tuberculosis or other diseases.

Any one or more of the following symptoms are suggestive of tuberculosis and call for a thorough examination by a careful physician.

1. Loss of weight without any other apparent cause.
2. Tiring easily after ordinary exertion.

SYMPTOMS OF TUBERCULOSIS

BE EXAMINED IF YOU HAVE ONE OR MORE OF THESE



Loss of weight or Tiring easily suggests tuberculosis



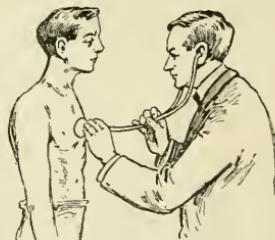
A cough lasting longer than three weeks is very suspicious



A continued temperature of 98° or less in the morning and an afternoon temperature of 99.5 or more are strong indications of tuberculosis.



A low blood pressure may mean tuberculosis.



If you have any one or more of these symptoms be examined by a careful physician at once.

cases 66½ per cent recover and of the *advanced* cases only 18½ per cent recover.

One should be suspicious of tuberculosis if he has been living with, or in close contact with, a tuberculous person who has been a careless cougher, sneezer, and spitter. Frequent colds or a "bad case of grippe" with a persistent cough or sore or swollen lymph glands or kernels in the neck, are causes for suspicion. Dissipation, over-work, intemperance, or other viola-

3. A cough that lasts more than three weeks.

4. A temperature of 98.0 or less in the morning, and an afternoon temperature of 99.5 or more.

5. A low blood pressure is suggestive.

6. A hemorrhage from the lungs means tuberculosis without exception.

Germs of tuberculosis in the sputum are a sure but a late sign of tuberculosis. The diagnosis should have been made and treatment begun long before the case reaches this advanced stage.

LIBRARY TRAINING COLLEGE,
DURHAM, N. C.

NOTICE TO READER.—When you finish reading this magazine place a one-cent stamp on this notice, hand same to any postal employee and it will be placed in the hands of our soldiers or sailors at the front. NO WRAPPING—NO ADDRESS.



The

Health Bulletin

Published by THE NORTH CAROLINA STATE BOARD OF HEALTH

This Bulletin will be sent free to any citizen of the State upon request.

Entered as second-class matter at Postoffice at Raleigh, N. C., under Act of July 16, 1894.

Published monthly at the office of the Secretary of the Board, Raleigh, N. C.

Vol. XXXII

AUGUST, 1918

No. 2

ANNOUNCEMENT

A change has been made in the management of the HEALTH BULLETIN. Mr. Warren H. Booker, who has been Editor of the BULLETIN and in charge of the educational work of the Board for nearly five years, is leaving to undertake similar work in France. Arrangements have been made to have the BULLETIN appear regularly. Hereafter Dr. B. E. Washburn, director of the Bureau of County Health Work, will be responsible for the section of the BULLETIN on Personal Hygiene; Dr. George M. Cooper, director of Medical Inspection of Schools, will be responsible for the section on Child Hygiene, which will include school sanitation and medical inspection of school children; Dr. L. B. McBrayer, superintendent of the State Sanatorium, will be responsible for the section on Tuberculosis; and Dr. W. S. Rankin, secretary of the State Board of Health, will be responsible for the section on Public Health and Sanitation. Editorials will be contributed by the Executive Staff of the State Board of Health and signed by their initials.

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FREE PUBLIC HEALTH LITERATURE

The State Board of Health has a limited quantity of literature on health subjects for free distribution. If you are interested in one or more of the following subjects, or want same sent to a friend, write to the State Board of Health for free literature on that particular subject.

WHOOPING-COUGH	CLEAN-UP PLACARDS	SMALLPOX
HOOKWORM DISEASE	SPITTING PLACARDS	ADENOIDS
PUBLIC HEALTH LAWS	SANITARY PRIVIES	MEASLES
TUBERCULOSIS LAWS	RESIDENTIAL SEWAGE	GERMAN MEASLES
TUBERCULOSIS	DISPOSAL PLANTS	TYPHOID FEVER
SCARLET FEVER	EYES	DIPHTHERIA
INFANTILE PARALYSIS	FLIES	PELLAGRA
CARE OF THE BABY	COLDS	CONSTIPATION
FLY PLACARDS	TEETH	INDIGESTION
TYPHOID PLACARDS	CANCER	
TUBERCULOSIS PLACARDS	MALARIA	

SEX HYGIENE BULLETINS

SET A—FOR YOUNG MEN

A Reasonable Sex Life for Men.
Sexual Hygiene for Young Men.
Vigorous Manhood.
Smash the Line. (The case against the restricted district.)
List of Reliable Pamphlets.

SET B—FOR PUBLIC OFFICIALS AND BUSINESS MEN

Public Health Measures in Relation to Venereal Diseases.
Venereal Diseases—A Sociologic Study.
Smash the Line. (The case against the restricted District.)
The Need for Sex Education.
A State-Wide Program for Sex Education.
List of Reliable Pamphlets.

SET C—FOR BOYS

Vigorous Manhood. (Especially for boys 12 years of age and over.)

NOTE.—For boys under 12, see "When and How to Tell the Children" (Set D); portions of "Vigorous Manhood" also may be read to younger boys. Boys 15 years and over may be given Bulletin "A Reasonable Sex Life for Men" (see Set A), at the discretion of the parent.

Sexual Hygiene for Young Men.
List of Reliable Pamphlets.

Any of the above will be sent without charge. Please send for only those bulletins for which you have definite use.

SET D—FOR PARENTS

When and How to Tell the Children.
Venereal Diseases—A Sociologic Study.
The Need for Sex Education.
List of Reliable Pamphlets.

SET E—FOR GIRLS AND YOUNG WOMEN

Your Country Needs You. (Especially for girls 11 years of age and over.)

NOTE.—For girls under 11, see "When and How to Tell the Children" (Set D); portions of "Your Country Needs You" also may be read to younger girls. Girls 15 and over may be given "The Nation's Call to Young Women" at the discretion of the parent.

The Nation's Call to Young Women.

List of Reliable Pamphlets.

SET F—FOR TEACHERS

The School Teacher and Sex Education.
Sex Education in the Home and High School.

Venereal Diseases—A Sociologic Study.
Smash the Line.
The Need for Sex Education.
List of Reliable Pamphlets.

THE Health Bulletin



PUBLISHED BY THE NORTH CAROLINA STATE BOARD OF HEALTH

Vol. XXXIV

AUGUST, 1918

No. 2

EDITORIAL

COMPLETE MOBILIZATION

Entire Medical Profession to be at the Call of the Country During the War

In England and France, and in Germany, too, for that matter, physicians of all ages, sexes, and physical conditions serve, wherever they are, at the will of their country. So it is to be here. So it should be. The medical profession of America will not be found one whit less patriotic than their brethren across the water.

The plan now in the making is the organization of a Volunteer Medical Service Corps. The President of the United States, through his agency, the Council of National Defense, will shortly ask each and every physician in the United States to apply for membership in the Volunteer Medical Service Corps. The membership of this Corps bind themselves to be subject to the direction of a Federal Board (representing the Surgeons General of the Army, Navy, and Public Health Service, and the Council of National Defense) with respect to serving their Government in the following capacities: (1) to remain in their present post of civilian practice; or (2) to apply for and accept, in case it is granted, a commission in the Medical Reserve Corps of the Army or the Navy; or (3) to accept service with the Public Health Service of the United States; or (4) to accept service with a state health agency; or (5) to accept serv-

ice in some state institution, as an insane asylum or a tuberculosis sanatorium.

Under the plan of medical mobilization as followed previous to the adoption of the proposed plan, the individual physician, while directly appealed to by the President through his agency, the Council of National Defense, to offer his services to his country, has been governed by the feeling that enough physicians without himself would yield to the call of the country to supply its military needs. Like those in Luke 14:18-20, some did not respond because they had bought a piece of ground; others because they had to prove a new automobile; and others because they had married a wife. Under the plan as heretofore carried out, only enough physicians have responded to supply the military necessities of the country and, therefore, all of those who have volunteered have had to be used regardless of the importance of the field which they vacated. As a result, many communities are without physicians; medical colleges have become considerably disorganized through large numbers of their faculties entering the military service; such governmental agencies as are manned by medical officers, as insane asylums, tuberculosis sanatoria, city and State health departments, have been and are being seriously disorganized through the medical officers of these institutions leaving their civilian duties at the call of their country and accepting commissions in the Army or

Navy. The writer knows of a state board of health in an adjoining state that has lost three-fourths of its personnel; and of another state board of health in a neighboring state that has lost even a greater per cent of its personnel; of another state employing in its engineering staff twelve engineers, and during the last year has lost fourteen engineers, the entire staff and two of the second crop; of another division in a state board of health that for eight months has been trying to find six medical officers, and in the last three months obtained three medical officers only to lose two of these in the last six weeks. Examples might be continued almost *ad infinitum*, but these illustrations are sufficient.

The lesson to be drawn from all of this is: There must be discrimination in the distribution of the medical profession to meet both the military and civilian exigencies of the war. Discrimination is impossible so long as the number of doctors volunteering is but slightly in excess of the military needs. Discrimination becomes possible just in proportion as the call of the country meets with the whole-hearted response of the profession. Discrimination will not only become possible, but will force itself when the profession offers the full measure of its service. The plan as outlined, which contemplates complete mobilization, takes care of this important principle of discrimination through which, and only through which, both the civilian and military needs of our country can be adequately cared for.

All will be called to volunteer; none will be slighted. All will be asked to leave it to their country to determine their place of service during the war. The country, in making the proposed appeal to the medical profession for 100 per cent mobilization, takes the profession at its word: The country assumes that the soul of the profession is the humanitarian ideal; that the

medical profession recognizes the humanitarian character of this war; that, with the mass of the profession, humanitarian ideals control. Of course, the country realizes that there is a small percentage of tradesmen that have secured license to practice medicine, and that, like a small amount of fatty infiltration or degeneration of higher tissue, these inert, oily, slippery globules will not respond; but even these, it is believed, will be squeezed into their own places by the pressure of an irresistible public sentiment.

There will be some physicians who will hesitate to leave to an agency, even though that agency speak for their country, the right to keep them in their place or to assign them to some of the military or public duties above mentioned. These men should remember that our boys in the army have not stood back on the possibility of their being placed under an incompetent commander. They know that whoever their commander is, he is to them the voice of their country. So in the coming call for 100 per cent volunteers in the Volunteer Medical Reserve Corps, let the individual physician trust his country and submit himself to its authorized agency for direction. By this faith lies the way of salvation, now and hereafter, but, oh, ye of little faith!

And when this call comes, let every NORTH CAROLINA physician recognize not only his opportunity for himself in a prompt response, but let him also recognize his individual part in grasping the opportunity of placing his State FIRST in the completeness and the promptness of its mobilization. How proud an achievement if North Carolina will lead all the states in meeting intelligently and justly the medical demands of these great times! It will be up to you, doctor, to do your part in placing your profession and your State in the right place.

W. S. R.

THE SPIRIT OF THE TIMES

A Letter from a Young Medical Officer who has been Attached to the British Army in France for the Past Year

[An officer in the Surgeon General's office has received a letter from a young medical officer who has been with the British Expeditionary Force for one year and who has been wounded. The letter in part runs as follows:]

"At present I am very impatient and dissatisfied with my lot, for I have been forced to be out of the game, owing to a wound received some twelve weeks ago. My regiment had been in for a particularly heavy attack and barrage, and while making my way along a ridge to get to some of my wounded lads, about 300 yards from the boche, a machine gun opened on me. I was unfortunate enough to get a bullet through the back. It passed between the spinous process. To make a long story short, I have had a rotten time of it, with blood poisoning and three operations. However, the wounds are now healed and I am going about London. My back is getting stronger and of more use daily.

"I am hoping to get back to France soon. I am more than tired of being a patient, and my only desire is to get back to my lads, to share everything with them in this time of crisis. How I do love my boys of the Fifth Duke of Wellington Regiment! They are Yorkshire men, and to my mind the best boys, finest fighters, and the most cheerful men I have ever known. I have no hesitation in saying I love them—the love of one strong man for other strong, brave, and true men. I will not be happy until I get back to them, and I love the game in spite of its dangers and discomforts, because it is a man's game and calls for the best that is in one. The experience is worth everything. One has the chance to have served at a time like this, to have given of one's best, to have lived for an ideal. There is nothing better. True, there are many drawbacks and dangers, but we can only live once, and if I 'go West' I will have solved the great mystery all the sooner.

"I am very proud of my military cross, which the British Government awarded to me for gallantry and devo-

tion to duty. It means a lot to me—the knowledge of work well done and an inspiration to give of my best."

THE COUNTY HEALTH OFFICER IS RIGHT

*"State Board of Health,
"Raleigh, North Carolina,*

"GENTLEMEN:

"Permit me to say that it might not be expected from one who, perhaps, has the largest number of vaccinations to his credit of any physician in North Carolina, to demur to anything said in favor of anti-typhoid vaccination, but the following paragraph in your press article on Typhoid, released for the papers on July 3, should be re-written. The paragraph referred to reads as follows:

"To combat the prevalence of Typhoid, the State Board of Health urges anti-typhoid vaccination, the screening of houses to protect from flies, and the installation of sanitary privies. The disease can be entirely prevented by the first measure, while the last two named would insure a very great reduction in the number of cases."

"It should have read 'The disease can be entirely prevented by sanitary privies, while the other two would insure a very great reduction in the number of cases.' Sanitary privies indeed, should have occupied first position in the paragraph instead of last.

"Now it is time, and high time, that the truth about this whole business should be made clear to the lay people of North Carolina, who must suffer until they learn the truth and conform their habits thereto, and the truth about Typhoid is that it, with other intestinal diseases, will remain with us until doomsday unless human excrement is safeguarded, and this truth should be so impressed upon people until, like Banquo's ghost, it will not down.

"With human excrement carefully and properly safeguarded, the two other measures can be dispensed with, and flies turned loose; but then, may the Lord have mercy upon baldheaded men!

"It is now time to put over in North Carolina a compulsory sanitary privy law and a state sanitary inspector in the field, and I am now announcing my candidacy for that position.

"With best wishes for the Board individually and collectively, but more especially for the executive and heads of bureaus, I am,

"Very truly,

.....
"County Health Officer."

VACCINATE YOUR FAMILY AGAINST TYPHOID FEVER

Typhoid fever is dangerous; it kills. If it does not kill, it keeps you sick for a long time. It is therefore expensive. It takes at least two of your family to have the disease, one who is sick and the other to wait upon him. It therefore means the loss of the services of two persons.

Typhoid fever is a reflection on your community, just as much so as a case of smallpox. Both can be surely prevented by vaccination. A case of typhoid fever in your family at this time means the stopping or lessening of your earning capacity. You become an expense rather than a producer, and, moreover, when the State and Nation need the full productive capacity of every one. Typhoid fever is an ally of the Hun. One sick with typhoid is as much incapacitated as if shot by a Hun bullet or poisoned with his gas. So, *don't have it!* Swat the fly, keep clean, keep well, be vaccinated against typhoid fever. Do all you can for the men who "tote the gun" and use the gun against the despised Hun.

We can't do our full part when we are sick or have any of our family sick with typhoid fever. So keep well. Buy Liberty Bonds, War Savings and Thrift Stamps with what you would lose in time, in doctor's bill, medicines, and funeral expenses. Last year there were 6,000 cases of typhoid fever in North Carolina. Enough time lost by patients and those nursing them to have fully trained a regiment, not to speak of over 600 of these who will never hear the bugle call to the colors —only Gabriel's trumpet of the Resurrection morn.

The army has vaccinated all the men called to the colors. There is no typhoid fever in the army. So follow the example set for you. It is safe, sure, not painful; it requires three inoculations, a week apart. Now is the time; don't delay!

J. J. K.

FEDERAL OFFICERS AFTER DOCTORS FAILING TO REPORT THEIR TYPHOID FEVER CASES

Invariably our attention is directed to epidemics of typhoid fever when the epidemic is not in its inception, but in full blast, and frequently when the height of the epidemic is passed. To illustrate: in the epidemic at Canton last year, where there was a total of over 150 cases, we know nothing of the occurrence of the epidemic until some 60 or 70 persons had become infected. This was true again at Greensboro in 1915, when a milk epidemic of 45 cases occurred. And, again, it was true of the epidemic in Wilmington in 1911. It has always been true of epidemics in this State—we are called after the horse is stolen.

If doctors would report promptly their cases of typhoid fever (and all cases of recognizable typhoid are treated by doctors), this office would be apprised of epidemics in their inception. We could immediately apply the methods of control and prevent many cases of typhoid and save many lives. For example, if last year this office had known of the Canton epidemic when only ten cases occurred, we could have had a man on the job and prevented not less than 50 cases and at least 5 deaths. Just recently our official attention has been directed to the occurrence of 12 cases of typhoid fever in the small village of Landis, North Carolina, a village of not over 200 people. If these cases had been promptly reported, the Board of Health would have been able to act a week or

ten days earlier than it did with its delayed information, and in this way could have prevented a number of absolutely unnecessary cases and, perhaps, some deaths. The doctor who fails to report his typhoid fever cases promptly is guilty of the same kind of negligence as the citizen who sees the beginnings of a conflagration and neglects to call the fire department. At present, doctors are not reporting more than 80 per cent of their typhoid fever cases.

The Federal Government, by a well thought out system of correspondence in which the franking privilege serves to great advantage, is getting in touch with the households from which there are reported cases of typhoid fever, and through these householders are ascertaining the existence of unreported cases in the community. The unreported cases are turned over to the State Health Officer with a request from the Federal Government that prosecutions be instituted. The prosecutions will be instituted. We hope that with this notice the Federal officers will find very few unreported cases. We shall have no option but to enforce the law.

W. S. R.

FEDERAL GOVERNMENT ASSISTS STATE IN ENFORCING QUAR- ANTINE LAWS

Infectious diseases must be handled under State laws, but this does not mean that public and governmental interest in this class of diseases is restricted to the State in which the diseases are present. There is something like 15,000 miles of North Carolina in infectionable contact with neighboring states. There are 500,000 persons, potential conveyors of infection, leaving this State by common carriers every year for other commonwealths near and distant; and thus our ills fly to fields we know not of. The Federal Government's interest in

effective state control of contagions is, therefore, most reasonable.

This interest of the Federal Government in State control of contagions has always existed, but in these critical times there are many additional reasons to emphasize the interest of the Federal Government in the State's handling of contagion. There are in our State, and there are coming to our State in ever-increasing numbers, soldiers and workers in war industries, both equally important to the cause of civilization. These, our guardians and visitors, are citizens of other states. We owe them protection, the protection that we ask of other states where our own soldier boys are sojourning.

Contagion must not be permitted to pass from the civilian population into the camps and industrial settlements. The sanitary officer of the camp must know, when men apply for furloughs, in what counties of North Carolina contagions exist, in order that men may not be furloughed to counties in which there are epidemics and from which epidemics may be transplanted by the returning soldiers to the camps. The special interest of the Federal Government in state control of contagion is, therefore, at this time, fully justified.

Both the United States Public Health Service and the Surgeon General of the Army are now assisting our State in running down and prosecuting violations of the quarantine law. Negligence on the part of physicians to report their cases of contagion, and on the part of householders to report measles and whooping cough not under the care of physicians, and to respect the quarantine laws, cannot and will not be tolerated. The United States Public Health Service, through its officers and by a regular system of correspondence with homes in which contagion has been reported to exist, is securing reports from house-

holders of unreported cases of contagion in their communities. These unreported cases are referred to this office; this office is asked by the Federal Government to enforce the State law (1) for the protection of our own people; (2) for the protection of our own army, and (3) in consideration of at least \$15,000 worth of assistance on the part of the Federal Government in a praiseworthy and sincere effort to make the quarantine law of North Carolina effective. The Board of Health will soon have from four to five additional field men at work investigating violations of this quarantine law, especially failure on the part of the physicians to report contagious diseases. All violations will be promptly and fully prosecuted. An embarrassing but unavoidable obligation to bring these prosecutions rests upon the Board of Health.

W. S. R.

PERSONAL HYGIENE AND FIRST AID MEDICINE

Personal Hygiene is a subject in which every citizen of North Carolina should be vitally interested at the present time. Our Nation is taking an increasingly important part in the greatest war of all history. We are called upon to defend the essential things underlying our government, the great principles of democracy. The health of the Nation is one of the most important phases of national defense. While in ordinary times there is a responsibility resting upon every citizen to maintain good health, in time of war this responsibility is enormously increased. The extent to which we, as a Nation, live up to this responsibility may even determine the outcome of the war. President Wilson has said: "It is not an army that we must shape and train for war; it is a nation."

The individual citizens of North Carolina have never been as interested in personal hygiene as they should have been. There is a reason for this. Horace Greeley once said that people were interested only in the unusual, and not in the usual. He gave an illustration of this. "Mr. Smith went down the street yesterday, met a dog, and the dog bit him." This, he said, is not news and does not interest, because it is the usual thing for dogs to bite. But, if "Mr. Smith went down the street yesterday, met a dog, and bit the dog," it would be news and of interest because it is unusual.

It has always been the usual thing for individuals to neglect their health and become defectives, and nobody—not even one of the individuals—was interested. But at present the personal health of the individual has become an important factor in the life of the Nation, and it has become more than ever the patriotic duty of every citizen to observe the rules of personal hygiene and keep in good health.

Under the new plan of editorship of the BULLETIN it is our aim to make the Department of Personal Hygiene very practical. Each month there will be items of interest regarding the more important phases of the subject, and instances of benefit secured through the practice of personal hygiene will be cited, and attention will be given to First-Aid Medicine. There will also be news regarding the progress of health work in the State, especially as it relates to measures by which individuals may acquire and preserve their health. In a word, the object of the department will be the same as that of all public health work—the prolongation of life and the improvement in the health and happiness of all the people.

E. E. W.

IN THE TOILS OF THE LAW**PROSECUTIONS BROUGHT BY THE STATE BOARD OF HEALTH DURING THE MONTH OF JUNE, 1918**

CAUSE	DEFENDANT	JUDGMENT
Violation of Quarantine Law	Dr. O. L. Denning, Dunn-----	Guilty; \$1 and cost.
" " " "	Dr. W. E. Coltrane, Dunn-----	Guilty; \$1 and cost.
" " " "	Dr. W. H. Furman, Henderson -----	Guilty; cost and promise of good behavior.
" " " "	Dr. W. M. Stone, Dobson-----	Not guilty.
" " " "	Dr. J. B. Smith, Pilot Mountain-----	Guilty; payment of cost.
" " " "	Dr. I. W. Shore, Boonville-----	Guilty; \$1 and cost.
" " " "	Dr. W. G. Leak, East Bend-----	Guilty; \$8 and cost.
" " " "	Dr. S. T. Flippin, Pilot Mountain-----	Guilty; \$1 and cost.
" " " "	Dr. J. H. Peeler, Salisbury-----	Guilty; payment of cost.
" " " "	Dr. I. E. Shafer, Salisbury-----	Guilty; \$5 and cost.
Violation of Vital Statistics Law-----	Dr. G. A. Ransaur, China Grove-----	Guilty; \$5 and cost.
	Dr. T. H. Higgins, Traphill-----	Guilty; \$5 and cost.

WHY PUBLISH THE NAMES OF THE GUILTY?**Reply to a Physician Protesting Against the Publication of the Names of Persons Convicted of Violating the State Health Laws**

DEAR DOCTOR:—Some time ago an officer of the State Board of Health convicted the manager of a hotel of violating one of the State health laws. In paying his bill preparatory to leaving the hotel, the officer remarked good naturedly to the manager that if he had had the time he would have given a news item to the press of the court's judgment against his hotel, in order that the news might reach and suggest to the manager of the hotel in the next town the advisability of seeing that his hotel was in accord with the requirements of the laws before the officer arrived. The convicted manager expressed himself as glad that the press had not been informed, not that he cared for the public's knowing of his unfortunate experience in the court, but that he would like the hotel

in his neighboring town to have an experience similar to his own and to be thoroughly sympathetic.

This little incident illustrates one of the reasons why the State Board of Health publishes the names and addresses of persons convicted of violating the State health laws. Such publicity is the ounce of prevention that saves other men from indictment. As soon as the people realize that the North Carolina State Board of Health will discharge the responsibility with which it is charged for the enforcement of such health laws, there will be few who make themselves liable to prosecutions. Publicity in this matter is like vaccination—it smarts a little where the remedy is applied, but the larger result is general immunity—the profession as a whole is protected.

Then there is another reason why we think the public should know what is going on in the way of protecting them against disease. Let me illustrate again, and let me illustrate by calling names.

Last month, the State Board of Health brought a criminal action

against Dr. J. B. Smith, of Pilot Mountain, North Carolina. Dr. Smith was indicted for not reporting three cases of measles and one case of typhoid fever. The public, having no official knowledge of these four foci of infection, had taken no action to restrict the spread of the diseases. It is impossible to know, and it would be very interesting to investigate and find out, just how many secondary cases, and possibly deaths, resulted from these four uncontrolled foci of infection.

The justice of the peace before whom the indictment was brought was a man named R. E. Smith, of Pilot Township, Surry County. His Honor's judgment was: "Judgment suspended upon payment of cost and during good behavior." The cost was 95 cents; that is to say, 23½ cents per violation. The Board of Health in this case was represented by a young man who had not had much experience in bringing indictments. What should have been done in this case was to bring an indictment against the doctor on one count, and the representative of the Board of Health should have stated to the justice that unless a fine of not less than \$5 or \$10 and cost was imposed, the Board would bring three more indictments and before some other justice of the peace or, perhaps, appeal to the Superior Court. However, the least we can do under the circumstances is to hold up this justice of the peace by calling out his name in public for whatever credit his acute sense of justice may bring to him.

Then there are two reasons, Doctor, why the State Board of Health insists on publishing the names of persons violating the State health laws: (1) To warn and protect others disposed to be careless with respect to obeying the public health laws; (2) to let the people see how some justices of the peace are assisting their State Board of Health in protecting them against contagion.

Now, frankly, Doctor, do you not think we ought to publish names?

Very truly yours,

W. S. RANKIN, M.D.,

Secretary.

PROSECUTING DOCTORS

Reply to a Letter from a Physician Convicted of Violating the Quarantine Law

DEAR DOCTOR:—I have your letter of July 10, and appreciate the fine spirit of the letter.

I regret very deeply to learn that one of the inspectors of the State Board of Health was enabled to secure evidence sufficiently convincing before the courts to prove that you had violated the State quarantine law.

The Board of Health (1) is required by the laws of the State to enforce the quarantine law; (2) having accepted about \$15 000 worth of assistance from the Surgeon General of the United States Public Health Service and the Surgeon General of the Army for the enforcement of the quarantine law, the Board is obligated to these Federal agencies to enforce this law; (3) the Board is bound, by ordinary moral considerations, to see that the public is protected against the spread of contagion in so far as the State laws can give this protection.

The inspectors of this Board are sent out instructed to investigate and find violations, and NEVER to discriminate in bringing indictments, but to indict every doctor found guilty of a violation of the quarantine law. We have indicted ex-presidents of the State Medical Society, members of the State Board of Medical Examiners, some of our best friends in the profession, physicians to whom we are obligated for both official assistance in building up the health work of the State and physicians to whom we are personally obligated. We make no discriminations. Executive officers rarely ever get into trouble by enforcing

laws; the danger in the administration of law is in discrimination, in treating one man differently from another. As long as we are able to say that we prosecute every KNOWN violation of the quarantine law regardless of the standing of the physician, we can keep our heads above water. But if we prosecute this man because he has no influence in the medical profession and in the State, and avoid prosecuting the man who has such influence, we would soon become hopelessly submerged; moreover, you can readily see that the State cannot permit the question of motive to determine recourse to the courts, for motive is a factor that can be accepted or rejected only by what a man says, and unscrupulous physicians, the type that should feel the hand of the law, would all escape.

In your letter you say that you are "persuaded that hundreds of cases go unreported through ignorance or neglect—I think few, if any, through maliciousness—on the part of the physicians of North Carolina." It is not ignorance. Doctor. Families may fail to report their cases of contagion on account of ignorance, but physicians are not ignorant. They are taught in the medical colleges, they are taught in the text-books that they read in their offices daily that they must report their contagious diseases to some public official for quarantine; that quarantine is a public function. Physicians have been notified time and again by letters, by newspaper articles, and Bulletin statements from this office, of their duty with reference to reporting contagious diseases. They are not ignorant. In discussing the reasons why physicians do not report their cases, I stated in my recent annual report as follows:

"The failure of physicians to report cannot be excused on this ground [ignorance]. The medical profession would resent it. There are two rea-

sons why physicians do not report communicable diseases. One reason is carelessness. Carelessness is the reason the high-class, law-respecting, ethical physician fails to report his communicable diseases. Some of the finest spirits of the profession fail to report because they are careless in this matter of public duty. Carelessness is such an inherent part of the nature of all of us that we all sympathize with its mistakes; however, we should not be blind to its effects. Carelessness is that which often robs tender infancy of its only support and closes the eyes of the young mother on a new world of bliss. Carelessness is the thing that burned Chicago; that caused the Baltimore conflagration; that burns up millions of dollars worth of property every year. Carelessness causes practically all epidemics. Carelessness in the form of national indifference is the only danger that confronts democracy in this judgment day of governments.

"The other reason for the failure of physicians to report communicable diseases which occur in their practice is a more sinister one. There are a few mercenary physicians who deliberately attempt to capitalize the socially near-sighted and ignorant by not reporting them for quarantine. In this way the mercenary places the ethical physician at a gross disadvantage, for it is grossly disadvantageous for law abiding doctors to have their patients placed under quarantine restrictions while the patients of law-evasive doctors are permitted their full and accustomed liberties. Under such a lopsided administration of law the near-sighted and the ignorant family leaves the better for the worse class of physicians, and law becomes an impediment to virtue instead of an obstruction to vice.

"In conclusion, it may be stated that the rigid enforcement of quarantine laws has two objects in view: (1) protection of the people against unnecessary contagion; (2) the protection of ethical, law-abiding physicians against mercenary, law-evasive physicians. The first object of quarantine administration is the public health; the second object of quarantine administration is justice within the medical profession."

Very truly yours,
W. S. RANKIN, M.D.,
Secretary.



PUBLIC HEALTH AND SANITATION



NORTH CAROLINA'S TYPHOID PROBLEM

North Carolina's Typhoid Rate Compared With That of Other States

The following table is compiled from the death rates of the states of the Union that are sufficiently advanced in intelligence and sanitation to appreciate the importance of properly drafted and enforced vital statistics laws—in short, those states with vital records that are accepted as correct by the Bureau of the Census of the Federal Government. The rates quoted are the average rates for the last three years for which reports are available, namely, the years 1913, 1914, and 1915:

1. Wisconsin	6.7
2. Massachusetts	7.4
3. New Jersey	8.1
4. Rhode Island	8.8
5. New York	8.9
6. Minnesota	9.2
7. Washington	9.3
8. New Hampshire	9.4
9. Vermont	10.8
10. Connecticut	12.6
11. California	13.0
12. Maine	13.8
13. Michigan	13.8
14. Pennsylvania	14.4
15. Kansas	14.5
16. Colorado	15.5
17. Montana	16.9
18. Virginia	18.1
19. Ohio	18.7
20. Indiana	20.4
21. Mississippi	21.2
22. Maryland	27.1
23. NORTH CAROLINA.	31.9
24. Kentucky	38.2

"Thank the Lord for Kentucky."

THE SANITARY INDEX OF NORTH CAROLINA

"TYPHOID FEVER IS EVERYWHERE AN INDEX OF THE SANITARY INTELLIGENCE OF A COMMUNITY."—*Sanitary axiom.*

Average typhoid fever death rate by North Carolina counties for the years 1914, 1915, 1916, and 1917:

	RATE FOR STATE . . .	30.3
Ashe	7.8	
Jones	8.3	
Yadkin	12.2	
Polk	12.5	
Alleghany	12.9	
Caswell	13.4	
Cherokee	14.3	
Montgomery	14.5	
Jackson	14.5	
Randolph	14.8	
Northampton	15.2	
Moore	15.5	
Alexander	18.8	
Alamance	18.9	
Burke	19.1	
Brunswick	19.6	
Stanly	19.9	
Graham	20.	
Sampson	20.9	
Rutherford	21.3	
Wilkes	21.6	
Anson	21.7	
Yancey	22.	
Madison	22.3	
Surry	22.3	
New Hanover	22.5	
Iredell	22.7	
Transylvania	23.3	
Carteret	23.4	
Gates	23.8	
Granville	23.8	
Union	23.9	
Franklin	24.2	
Buncombe	24.4	
Craven	24.5	
Davie	24.6	
Lincoln	24.8	
Bertie	25.5	
Dare	25.5	
Stokes	25.8	
Bladen	26.	
Chatham	26.5	
Nash	27.	
Rockingham	27.3	
Vance	27.4	
Person	28.	
Tyrrell	28.	
Macon	28.5	
Harnett	28.6	
Henderson	28.6	
Cleveland	28.7	
Johnston	28.8	

Haywood	29.2
Hertford	29.6
Pender	29.9
Cumberland	30.1
Hoke	30.1
Robeson	30.1
Onslow	31.
Orange	31.1
Watauga	31.1
Wake	31.8
Clay	31.9
Mitchell	32.
Halifax	33.6
Davidson	33.6
Hyde	33.9
Mecklenburg	33.9
Gaston	34.1
Beaufort	34.3
Edgecombe	34.3
Rowan	34.6
Warren	34.7
Camden	34.9
Duplin	34.9
Catawba	35.
Avery	35.5
Cabarrus	36.1
Guilford	36.7
Washington	37.3
Forsyth	37.6
Caldwell	38.6
McDowell	39.1
Columbus	39.2
Pitt	40.1
Pamlico	40.5
Greene	41.9
Pasquotank	42.4
Swain	43.
Richmond	43.1
Durham	43.4
Wilson	46.
Currituck	47.8
Scotland	51.6
Lenoir	52.8
Wayne	54.3
Chowan	54.6
Lee	59.2
Perquimans	60.2
Martin	61.

NORTH CAROLINA WINNING IN THE FIGHT AGAINST TYPHOID

In 1914, 839 deaths in the State from typhoid; rate	35.4
In 1915, 744 deaths in the State from typhoid; rate	31.3
In 1916, 700 deaths in the State from typhoid; rate	29.1
In 1917, 626 deaths in the State from typhoid; rate	25.7

The above table is the silver lining to the typhoid shadow that rests upon our State. It means that the cloud

that casts the shadow is limited; that the light of intelligence is shining upon this cloud and is gradually, steadily dissipating its noxious vapors; that the shadow is lifting.

Sanitary ignorance and carelessness (but carelessness is the child of ignorance) cause typhoid, and, conversely, sanitary intelligence and the proper appreciation of human life (but the latter goes with sanitary intelligence) will eliminate typhoid fever from the list of diseases.

RESPONSIBILITY FOR TYPHOID FEVER

WHAT ARE RESPONSIBLE

The most important fact for any one to know about typhoid fever is that the disease is caused by the swallowing of human excreta, and is contracted in no other way. It is true that the excreta is usually in such small amounts as not to be detectable. The excreta is taken in through the mouth in either water or food.

Water may be contaminated with human excreta (a) when the well or spring is so placed and so imperfectly constructed and protected that surface washings during a rain from a place of deposit of human excreta flow toward and enter the water supply; (b) by percolation or infiltration through the soil from an open privy toward a well or spring located dangerously near, that is, within 75 feet; (c) by the dropping of visible or invisible amounts of human excreta from soiled shoes or feet through an imperfectly constructed well cover on which those using the well may stand.

Food may be contaminated (a) with small amounts of excreta brought to the food by the hands of some person who has been nursing a case of typhoid fever; or (b) by the hands of some person who has had typhoid fever in recognizable or unrecognizable form years before and who still carries and discharges the typhoid germs from his

intestines, that is, by a "typhoid carrier"; (c) by flies contaminated with the human excreta from some open privy within from 200 to 500 yards of the exposed food.

The next most important fact for any one to know about typhoid fever is this: THE DANGER OF TYPHOID FEVER TO ANY UNVACCINATED PERSON IS IN DIRECT PROPORTION TO THE NUMBER OF OPEN PRIVIES AND THE NUMBER OF FLIES WITHIN 500 YARDS OF THEIR EATING PLACE. This fact explains the variation in the typhoid death rate in (1) different communities in North Carolina and (2) during the different months of the year.

Relation of Typhoid Fever to Privies.—The lowest death rate in North Carolina occurs where there are fewest privies in proportion to the population, that is, in the sewered section of our larger cities. In these communities there are no open privies. The next lowest death rate from typhoid fever in North Carolina occurs where there are next fewest open privies in proportion to the population, that is, in the purely rural sections of the State. Here there is but one privy within fly range (within from 200 to 500 yards) of the average home. The highest death rate from typhoid fever occurs where there are the largest

number of open privies in proportion to the population, that is, in the small, unsewered towns and cities of the State and in the suburban, unsewered sections of our larger cities, where, instead of one privy being within fly range of a home, there are from six to a dozen privies so located.

The above statement with respect to the variation in typhoid death rates, in so far as the privy factor is concerned, is in full accord with the evidence contained in the table showing the typhoid death rates of different counties, on page 36 of this BULLETIN. One familiar with the distribution of the population of this State will recognize that the counties with lowest death rates are counties with the largest percentage of purely rural residents. The counties with medium death rates are counties in which the low rate of sewered communities offset the high rate of unsewered suburban districts and small towns and cities. The counties with highest rates are those in which the highest percentage of unsewered village and town populations live.

Relation of Typhoid Fever to Flies.—Typhoid fever in North Carolina comes and goes with this messenger of death, the typhoid fly. In support of this statement are the facts of the following table:

MONTHLY TYPHOID DEATHS IN NORTH CAROLINA FOR THE FOUR YEARS 1914, 1915, 1916, AND 1917

	1914	1915	1916	1917	Total
January-----	31	16	22	18	87
February-----	22	20	19	13	74
March-----	17	16	11	—	51
April-----	19	18	9	21	67
May-----	25	19	30	27	101
June-----	79	69	86	72	306
July-----	161	139	129	122	551
August-----	152	134	147	131	564
September-----	127	115	115	104	441
October-----	96	78	71	51	296
November-----	69	73	35	40	217
December-----	41	47	26	22	136
Totals-----	839	744	700	628	2,911

In this table we see the smallest number of typhoid deaths during the flyless months, November, December, January, February, March, and April—typhoid deaths due to cases contracted from polluted water supplies, from the hands of persons contaminated from some case of typhoid fever that such a person has nursed, or from the hands of a person who is a "carrier." During these flyless months the average number of deaths from typhoid fever in North Carolina is 29 deaths per month. Then come the flies, steadily increasing until toward the latter part of August, when they decrease in number, and during these six fly months the average number of deaths from typhoid fever in North Carolina per month is 95 as against 29 during the flyless months. See illustration below. The case against the fly is overwhelmingly conclusive.

But the fly would be harmless if he were unarmed. He gets his deadly

ammunition from open, unsanitary closets; thus we see that THE PRIMARY FACTOR IN NORTH CAROLINA'S TYPHOID RATE IS THE OPEN-BACK PRIVY. The secondary factor is the ordinary house-fly.

The time is ripe, overripe, when the State, through its General Assembly, should outlaw the open, unsanitary privy. The next Legislature is likely to be asked to do this.

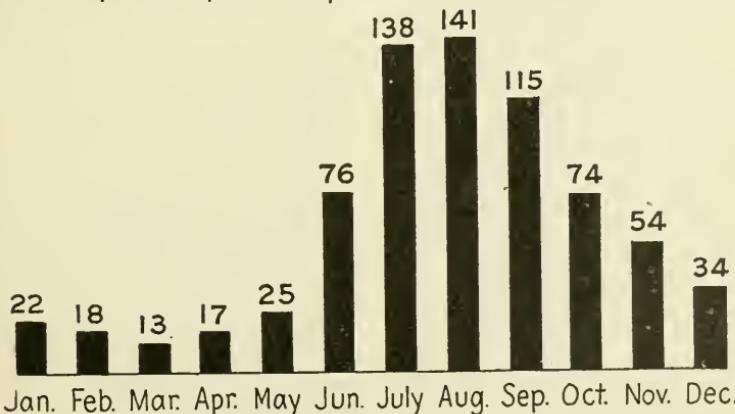
WHO ARE RESPONSIBLE?

The county commissioners are the most responsible people in North Carolina for typhoid fever. That is a severe charge, and one that ought not to be made unless the facts will warrant it. What are the facts?

Well, first, the larger responsibility of county commissioners: County commissioners are responsible for rural North Carolina, and rural North Carolina is 90 per cent of the population of the State. The responsibility

MONTHLY VARIATION IN TYPHOID DEATHS (N.C. average for 4 years)

High rate in summer and fall due largely to flies coming from open-back privies to unscreened houses.



of county commissioners to the rural people is for both property and life, but responsibility for human life takes precedence over responsibility for property, for is not life more than meat, and the body more than raiment?

County commissioners are responsible for typhoid fever because they could prevent it, or prevent a large part of it, if they would. The method of prevention is cheap; it is simple. It is too cheap and too easy for any board of county commissioners to be able to say that they could not do it. Let us see if this is not so.

A board of county commissioners can employ some doctor living in the county, at \$1.50 an hour for 4 hours a week, that is, \$6 a week, and this for fifty-two weeks in the year is \$312, to vaccinate citizens of the county who apply for free typhoid vaccination. The State will furnish the vaccine without charge. The county commissioners can arrange with the doctor doing the vaccinations for him to meet the people in several places in the county instead of having all of the people to come to the county seat. For a little additional cost for some newspaper notices and for some properly gotten up placards, the people of the county can be told of their opportunity for free typhoid vaccination and what this means in typhoid prevention. Certainly, for a total sum not exceeding \$500 a year, the average county can carry out a very comprehensive plan of typhoid vaccination.

So we see that the reason county commissioners do not protect their people by anti-typhoid vaccination is not money. It is not ignorance. No county in North Carolina at this time has a board of county commissioners that do not know something about typhoid vaccination. They know that there is not an army in the world that is not protected, absolutely protected, in this way, and they ought to know (as a matter of fact, they *do* know) that what is good protection for the

army is good protection for the civilian. Then, if it is not money and it is not ignorance, why do the county commissioners, when they can reduce their typhoid death rate, not do it? Simply because they are not interested. But this absence of interest on their part does not in any way modify the *fact* that they can greatly reduce their county's typhoid death rate, and that if they do not reduce it, they are responsible for its being unnecessarily high.

Mr. Citizen, if you agree with your State Board of Health, cut this out and mail it to one of your county commissioners. It may do some good—and it may not; however, the world do move; no harm in trying, and a chance only costs a 3-cent postage stamp.

RULES FOR MOTHERS

Don't pin on baby's diaper or band too tightly, as it may cause deformity and is often the cause of vomiting.

Don't handle the baby too much.

Don't let little children sit on the floor on cold days, or in a draft between open door and window.

Don't walk the floor with your baby.
Don't let him lie in a wet napkin.

Don't give him solid foods before he is one year old and then only sparingly.

Don't feed the baby too often or too much.

Don't pick him up every time he cries.

Don't put too many clothes on the baby during warm weather or too few during the cold weather.

Don't let baby's hands and feet get cold.

Don't let a child put playthings or other objects in his mouth.

Don't use milk unless you are sure that it is clean and pure.

Don't give medicines or drugs without the doctor's advice.

Avoid soothing syrups.

PERSONAL HYGIENE



VALUE OF LIFE EXTENSION WORK

In the examinations of the first draft about one-third of all the young men called and examined were rejected because of physical defects. The causes of rejection were many, chief among them being eyes, teeth, underweight, feet, heart, overweight, ears, tuberculosis, undersize, injured and amputated limbs, syphilis, debility, hemorrhoids, and rheumatism. A study of the causes shows that probably three-fourths of the conditions could have been prevented by proper personal hygiene or by medical or dental treatment if this could have been obtained in time. It should be remembered that the above statistics are for young men between the ages of 21 and 31 years. If the higher age groups (31 up to 61 years) of both sexes should be examined, there is no doubt that the number of those found defective would be much larger.

Among our many weaknesses that have been brought to our attention by the war, none is more alarming and in need of correction than the fact that a large majority of our citizens in the very prime of life are physical defectives principally because of neglect of personal hygiene. This is a more serious problem than it appears to be. The mental development is largely dependent upon the physical condition, and the loss in efficiency which must result from such physical conditions is no doubt a serious handicap to our educational and industrial development.

The necessity of having every adult examined regularly in order that he may know if there is any incipient disease or any defects which may impair his health and decrease his working capacity is evident. And in order to meet this necessity the State Board of Health is preparing to inaugurate in the counties coöperating with the Bureau of County Health Work a unit known as Life Extension Work.

The Life Extension Unit is closely modeled after the work being done by the Life Extension Institute. The health officer sets aside one or more days each week for the examination of citizens who may apply at the health department. The purpose of the examination is to detect disease in its incipiency, to find minor defects which may impair the citizen and decrease his working capacity, and urge medical attention before the condition may become serious or permanent. Where medical or surgical attention is thought necessary, the patient is referred and chooses his own physician. Of course, no treatment is given by the health officer, but each person examined is given a report, with verbal and printed advice together with suitable literature on the health conditions in which he is interested.

At present the following nine counties are coöperating with the State Board of Health in the development of county health departments: Davidson, Forsyth, Lenoir, Nash, Northampton, Pitt, Robeson, Rowan, and Wilson.

DANGER IN ILL-FITTING SHOES

A recent publication of the Life Extension Institute of New York ("How To Live" for May, 1918) has the following to say about shoes:

"Foot arches should never be worn. They bring no real benefit, but increase the weakness and disability and are not permitted in the army. The exercise most highly regarded in the treatment of flat foot among soldiers is as follows:

"Stand with feet parallel and somewhat apart with great toes firmly gripping the ground. Without bending the knees or moving the feet, rotate the thighs outward repeatedly. This is chiefly done by strong contraction of the great muscles of the back of the thigh and seat.

"Exercises that involve curving inward of the feet and raising of the inner margin of the foot are particularly valuable. Most foot arches found in the shops exert a contrary effect. The modern treatment is by proper exercise, manipulation of the foot to overcome adhesion, stiffness, etc., and the practice of proper posture in daily walking.

"In measuring the feet for shoes the soldier stands with his full weight on one foot on a flat board with a sliding block. Measurement is also taken with a forty-pound weight on his back. A shoe two sizes larger than the actual measurements of the foot is chosen to allow proper foot play and for sock. In the shops the sizes are deceptive. To cater to vanity they are numbered somewhat smaller than the actual size, also the measurement is taken with the customer sitting, and does not allow for the expansion of the foot or bearing the weight of the body. The army shoe, Munson last, is a good shoe and can now be found in the shops. Its inner edge is not exactly straight, but it is a decided improvement over the conventional shoe. Other types of shoes conforming to the normal foot can be had if you insist upon it. Those approved by the American Posture League can be procured by any shoemaker.

"Take a shoe census on the trolley car. Note how few people have shapely feet free from large joints; note how few wear proper shoes with straight inner edge and no outward curve. You will then understand why it is

necessary to take so much trouble to train the soldiers in the care of their feet and the correction of foot trouble. Note that bad as the men's shoes are, the women's are far worse and palpably deforming.

"It is a woman's duty to be a good angel, and most of our women are, God bless them! But crude as it may sound, it is a woman's duty to be a good animal as well as a good angel, and no woman is a good animal who has deformed, unsightly, feeble, feet that jangle her nerves.

"Men and women who stand a great deal should keep the feet well apart and parallel, pointing straight forward. Rest first on one foot and then on the other; much fatigue will thus be avoided."

CONSTIPATION

Very few people recognize the seriousness of constipation, and a still smaller number know that the lack of a privy is one of the chief causes of constipation (especially among the women) in the rural homes of North Carolina. A privy—and a sanitary one that will prevent typhoid and infant diarrhea, at that—would cost less, in many instances, than the money spent each year by the average family for patent medicines and remedies for constipation. Osler, in his "Practice of Medicine," states that chronic constipation is the direct cause of many general symptoms, such as debility, lassitude, mental depression, headache, and loss of appetite; while in women it may, and often does, cause painful menstruation, congestion of the pelvic organs with leucorrhea, and neuralgia of the sacral nerves. Also, in women, it is one of the most frequent causes of digestive disturbances, with nausea and vomiting. The Life Extension Institute's publication, "How to Live," says about constipation:

"The injury which comes from the retention of the body's waste products is of the greatest importance. The intestinal contents become dangerous by being too long retained, as putrefying fecal matter contains poisons

which are harmful to the body. Abnormal conditions of the intestines are largely responsible for the common headache malady, and for a generally lowered resistance, resulting in colds and even more serious ailments. Constipation is extremely prevalent, partly because our diet usually lacks bulk or other needed constituents, but partly also because we fail to eliminate regularly, thoroughly, and often.

"Constipation, long continued, is by no means a trifling matter. It represents a constant and cumulative tax which often ends in very serious consequences."

It is a well-known fact that chronic constipation is more common among country women, and it has been proven that the condition is more prevalent in homes without privies. The reason for this is due in a large measure to the fact that (to quote again from "How to Live") "the natural instinct to defecate, like many other natural instincts, is usually deadened by failure to exercise it. The impulse to defecate, if neglected even five minutes, may disappear." In homes without privies it is often difficult, or even impossible, for women to have regular times for the important call of nature, especially in winter and in rainy weather. Because of unsuitable conditions they neglect the impulse, and constant neglect brings chronic constipation and the evils with which it is attended.

No rural home can better conserve its health and its money than by building a sanitary privy. Write to the State Board of Health for a bulletin on the subject.

HYGIENIC VALUE OF GARDENING

One of the greatest lessons taught by the war is that by complying with the food regulations we kill two birds with one stone—conserve and help win the war and at the same time benefit our digestion by the use of a more rational diet. And many of us have learned more than this. We have

found out that gardening is a most pleasurable and healthful means of recreation.

Those who merely eat food and do not create it are missing a lot. There is a peculiar mental as well as physical benefit to be obtained from gardening. It is much like fishing—only more certain. The mind is rested and the muscles are brought into play. While working his garden the tired business man or office assistant is made to forget the cares and duties of his routine life and, if he has proper imagination, will have aroused in him an appreciation of the marvelous workings of nature. For the fat and the lazy, gardening supplies a method of health regimen more easily followed than any system of gymnastic exercises ever devised.

Along with helping the Government, we should take advantage of the war and secure for ourselves and our families an increased knowledge of personal hygiene and sound and healthful standards and ways of living.

A CONFESSION

I am a murderer!

I play a safe game. I scatter disease germs in halls, in the street cars, wherever there is a crowd.

Few people suspect me. I am never detected.

I kill babies, children, grownups, impartially. Hundreds of hospitals are filled with those I do not succeed in slaying.

Thousands of graveyards are filled with those with whom I have more success. I am ruthless and cruel. Yet I could be restrained if people really understood how much harm there is in me. Instead of that they think I am funny and laugh at me. Some of them even cry the German word for "health" when they hear me.

For I am a SNEEZE!

—Arizona Health Bulletin.



CHILD HYGIENE

PREVENTIVE DENTISTRY

BY GEORGE M. COOPER, M.D.,

Director Bureau Medical Inspection of Schools, N. C. State Board of Health.

(Paper read before the North Carolina Dental Society at Wrightsville, June 20, 1918.)

In the beginning, I want to express my appreciation for the honor conferred by the invitation to take a part in your meeting, and to assure you at the outset that I have not come for the purpose of preaching to you or at you. But I come to frankly and honestly discuss with you a program which is of vital importance to every citizen of North Carolina present and prospective, but of especial importance to the children, who, after all, represent our State's greatest resource. Some of you have probably wondered what I mean by the term "Preventive Dentistry." I mean simply collective or community prophylaxis. I want to ask you to consider the matter exactly as I would ask a body of health officers to consider the prevention of typhoid fever, for instance.

Necessity for Prevention

It is an inviolable law of Nature that nothing ever stands still. A leaf is either growing or rotting. A plant grows or dies.

I have been telling the mothers, and teachers, all over North Carolina that the age to begin taking a child to a good dentist is six months old. A dentist told me a few days ago I was wrong. He said that the time to begin was with the child's grandmother at six months of age. He is everlastingly right. And so I hope every dentist here will agree with me that it is time to start a systematic educational

propaganda. I shall not touch the field of pathology. I am not a dentist, and so would make myself ridiculous before a body of experts. One thing, however, I do want to emphasize as strongly as possible, that nine-tenths of so-called indigestion is due to imperfect teeth with the resulting teeth diseases. The teeth compose the very gateway to the alimentary tract. The mouth is the beginning of trouble.

Frequency of Dental Decay

Among the policyholders of the Metropolitan Life Insurance Company in 1917 fifty-two deaths occurred from diseases of the teeth and gums. But the most significant part of this record is that seventeen, or one-third, were of children under fifteen years of age.

Working in accordance with the law requiring a medical inspection of school children in North Carolina, the teachers made the preliminary examination for something like 175,000 school children during the last school year. Here are a few of the results taken at random:

A school of 23 pupils in Lenoir County had 19 children reported with decayed teeth, average age 12 years. Only two had ever consulted a dentist.

In Forsyth County a school of 51 pupils had 44 with decayed teeth; 23 of them, or nearly half, were 12 years old and over; 27 per cent of them were over 14 years of age. All permanent teeth affected. Only three of them had been to a dentist.

In Guilford County the health officer examined a school and found every child in it with decayed teeth 100 per cent bad. Every child had a permanent tooth involved. Less than 10 per

cent had visited a dentist during their lifetime.

In an examination which I had made myself for one of the larger cities of the State we found 1,088 children out of 1,638 examined having remediable dental defects; 325 of them being over 14 years of age.

These figures can be duplicated in any city, town, or school district in the State.

Proof That This State of Affairs Can be Prevented

So much for the frequency of trouble. Now, can it be remedied and prevented in the future?

A member of the Executive Staff of the State Board of Health told me recently that he took his 2-year-old child to see a dentist, and the dentist refused to look in the baby's mouth, stating that it was not necessary to treat a child's teeth under 14 years of age. I am a living example of the fact that if something is not done vigorously and persistently for about half of all children's teeth *before* 14, few of them will have a sound tooth of their own at 30.

Here is where the grandmother theory comes in. Numbers of people, owing to generations of bad heredity or wrong living environment, have blood and bone deficient in certain chemical elements, such as lime salts. To treat these people successfully every dentist must begin on the child soon after birth. Must have a good knowledge of physiology, chemistry, and of food values, or, what is better, must have a physician consultant upon whom he can rely. At least two of the best dentists in North Carolina have informed me that they have the living proof that not only one isolated case, but literally hundreds of them, from families of notoriously bad teeth on both sides, have been coming to them from babyhood for the past twenty

years and who now have perfectly good teeth.

I know it can be done. Persistence and patience is all the requisite.

Results of Neglect of Teeth

If this is not done, what? As said above, most so-called indigestion is one result. Cancer, tuberculosis, appendicitis, rheumatism, arthritis, diseased tonsils, stomach ulcer, heart disease, constipation, deformed mouth, physical discomfort, decreased productive capacity and general unhappiness are some of the direct results to be expected.

Need for Dental Education

The first essential is to get the *public* to realize these truths and get them to take action. I mean the people, the folks, the 90 and 9 per cent that are out on the farms and in the mills and factories. But "How shall they hear without a preacher?" The facts must be continually and persistently presented to them. But how can this be done? Dr. Brady says that a "good dentist does not conduct a bargain counter." If a patent medicine man sells his stuff he advertises—and lies. If a politician wants office, and he always does, he goes out and asks for votes, and buys and steals what he cannot otherwise get. But a physician and dentist cannot go out and ask for patients. Their advertising must always consist of a job well done when the patient comes. But the rub is getting the patient to come at the right time if at all.

A Plan of Campaign

We have already shown that at least 95 out of every 100 persons in North Carolina over six months of age need dental treatment. We are equally sure that in all matters of this kind the only strategy worth while is to begin on the children, especially the group masses of school children.

We have worked out a plan by which we propose to begin this year the offer of free dental treatment of a limited class to school children regardless of social or financial standing. We already have this work started in one county, and it is taking the combined efforts of the State and county health departments and the dentists to get the people out to take advantage of free treatment. But that is exactly what we expected. If the present activities of the State Board of Health had been put into effect suddenly ten years ago we would have been mobbed by the profession and the public. Now, with the assistance of the dental profession, we hope to begin just such an educational propaganda. I had the privilege of helping direct the first great campaign in 1915 against typhoid fever. And the same methods that got 52,000 people vaccinated by our force that summer will get 5,000 children treated by the dentists, if we have the same support from the dentists we had from the physicians in that effort.

We are proceeding on the principle that you gentlemen have failed to get the mountain to Mahomet, and so Mahomet must go to the mountain, that is, the people. The plan is strictly ethical. We pay a young dentist a small salary, send him out in the country with the health officer with a folding army chair and let him do dental work among the people. No expensive gold or bridge work, etc., will be offered, but the simpler forms of treatment, which in the case of amalgam fillings will last a lifetime. This work in the summer is to be followed where possible by the installation of a permanent dental infirmary at the county-seat town, to be open throughout the year certain hours each week, free to school children, especially those six to eight years old. This is bound to be a success, because it is founded on fundamentally correct principles. We expect to make mistakes here and

there, of course. We will have difficulties and obstacles to overcome.

In the past there have been many efforts in North Carolina to get at this proposition, but every case so far as I can find out resulted in failure. We shall, of course, profit by those mistakes. Those efforts failed chiefly for two reasons: First, the dentists offered their services free, and, second, they proposed to treat only the children of the poor. Both propositions were radically wrong. In the first place, dental work like any other public health question is worth paying for as a public proposition, and, in the second place, whenever you start out to divide people into classes and card index a proportion of them as indigent, you are out looking for trouble. This work is not one whit less a public health necessity than typhoid vaccination or giving free hookworm treatment. Now, suppose in our typhoid campaigns we had sent out notice that treatment would be given free to the poor, and the others could get it by going to their private physician's office and paying \$5 for it. Would we have vaccinated 52,000 people the first summer? No; we would not have seen a dozen. We made our effort then to get the richest people in every dispensary district to come first; they came, and so did the rest. This is exactly what must be done if our dental campaign succeeds.

Logic of This Procedure

Now, the logic of this method is as plain as daylight. Every big man in the medical profession was quick to see it when we began a few years ago. We had a few physicians in almost every county to protest that we would ruin their private practice. These same men look silly now when asked about it. Why? Because the work was educational and the physician is now called on oftener and at a time when he can accomplish some-

thing and when the patient is able to pay him for the service, and not simply called in to sign the death certificate.

With living material in North Carolina sufficient to keep busy ten times the number of dentists you now have for a lifetime, you cannot fail to see the sound logic in any plan which helps make a dental convert out of a young school child, and therefore assures to some dentist a patient for life which would otherwise go to the country physician for treatment or extraction when suffering with tooth-ache.

Support of Leading Dentists an Absolute Essential

Unless we have the sympathetic, unselfish, enthusiastic support of all the leading men in the dental profession our work will be a failure. It is true you will be building the bridge for those who are to come after you. But—

*"The works of God are fair for naught
Unless our eyes, in seeing,
See hidden in the thing the thought
That animates its being."*

Difference Between Trade and Profession

I hope I may be pardoned for calling to the attention of young graduates, especially, that every young dentist, no less than every young medical graduate, cannot remember too often that there is a world of difference between a trade and a profession. The tradesman asks, "How much can I get?" The professional man, if he be true to his heritage, must ask, "What service can I render?"

If we would be successful in treating school children and get the great mass of people to grow up to the "dental habit" early, every dentist must make it an invariable rule not to inflict pain unless it is impossible to avoid.

One big reason why dental propaganda is hard to make popular is the morbid fear of pain, and I am convinced that the dentists themselves are partly to blame for this attitude. I recall that several years ago I had a troublesome tooth, as usual, and consulted my dentist friend. He is a splendid dentist, good man and loyal friend, but professionally cruel as a German. He looked at my molar, and bluntly stated that the nerve must come out, and, suiting the action to the word, he placed his instrument and with a mighty blow of the hammer nearly killed me. Oh, yes, he got "the" nerve and "my" nerve, too. Trouble was, it would have taken fifteen minutes of his time to have obtunded the nerve terminals, and he was in a hurry to go home. Now, I hold that such an act is criminal, because there was no necessity for inflicting pain. Give me my chance of going back into his chair again or going over to the big electric chair at the Capital, I would take the latter without a quibble, because death would be mercifully inflicted.

Patience and tenderness are the prime essentials of success with school dispensaries. But it is well worth all the efforts.

Reward

If this plan of work succeeds, the reward to the dental profession will be great, materially and otherwise. The practice of every man will increase just in proportion to his ability. You will have the satisfaction of knowing that you have placed your profession on a plane of great service to all the people. You will see in the years to come a material decrease in the death rate from many easily preventable diseases, due directly to your efforts. The sum total of human happiness and prosperity will be greatly augmented. But your greatest reward will be the conscious knowledge of a duty well done.

HOW TO GET TUBERCULOSIS

Tuberculosis is caused by tiny germs which live and multiply in the human body. When these germs are coughed up, sneezed out and otherwise discharged by those having the disease, they are frequently carried to others in one or more of the ways shown in the accompanying cut. Study this cut carefully.

consumptive has been coughing, sneezing or spitting. By so doing, one is very likely to inhale the fresh virulent germs of tuberculosis sprayed out into the air by the consumptive. In a closed room such germs may float around in the air for hours.

The same principle applies to contracting colds, pneumonia, "Gripe," diphtheria and several other diseases.

On the other hand, we should avoid

HOW THE GERMS OF TUBERCULOSIS ARE CARRIED FROM THE SICK TO THE WELL



Consumptive spitting on floor. Flies feeding on it, carry the germs of the disease to food.

The germs frequently enter the bodies of children playing on the floor, through sores or wounds, or are carried by the hands to the mouth.

Spit on the floor dries, and careless sweeping, dusting or draughts cause well people to breathe in these germs.

Tuberculosis germs deposited on common roller knives and drinking cups, spread the disease.



Others may get the disease by breathing or swallowing the germs. Spray given off in sneezing or coughing, contain germs in a moist and active state.



Putting food, money, pencils and other objects into the mouth, after a consumptive has poisoned them with his spit, spreads the disease.



Kissing frequently spreads the germs of tuberculosis from the lips of the sick to the well.

Germs of tuberculosis are much more active and likely to cause the disease when they have just been coughed, sneezed or spit out than they are after they have been outside the human body for a week or more. No one should ever needlessly expose himself by breathing dust from dried tubercular sputum. It is highly dangerous also to breathe in an atmosphere or in a close unventilated room, church, store or shop, where a careless

exposing others to our diseases known or unknown. Whenever indoors or near any one else, one should always cough or sneeze into a handkerchief or spit, when necessary, where it will harm no one. By living outdoors and in the fresh air as much as possible any dangerous germs which have been coughed, sneezed or expectorated into the air will be rapidly carried away, and the danger of infection greatly reduced.



The

The Health Bulletin

Published by THE NORTH CAROLINA STATE BOARD OF HEALTH

This Bulletin will be sent free to any citizen of the State upon request.

Entered as second-class matter at Postoffice at Raleigh, N. C., under Act of July 16, 1894.

Published monthly at the office of the Secretary of the Board, Raleigh, N. C.

Vol. XXXIII

SEPTEMBER, 1918

No. 3

THE BADGE OF PATRIOTISM

DOES YOUR DOCTOR WEAR IT?



THE INSIGNIA OF THE VOLUNTEER
MEDICAL SERVICE CORPS

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FREE PUBLIC HEALTH LITERATURE

The State Board of Health has a limited quantity of literature on health subjects for free distribution. If you are interested in one or more of the following subjects, or want same sent to a friend, write to the State Board of Health for free literature on that particular subject.

WHOOPING-COUGH	CLEAN-UP PLACARDS	MALARIA
HOOKWORM DISEASE	SPITTING PLACARDS	SMALLPOX
PUBLIC HEALTH LAWS	SANITARY PRIVIES	ADENOIDS
TUBERCULOSIS LAWS	RESIDENTIAL SEWAGE	MEASLES
TUBERCULOSIS	DISPOSAL PLANTS	GERMAN MEASLES
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CARE OF THE BABY	COLDS	PELLAGRA
FLY PLACARDS	TEETH	CONSTIPATION
TYPHOID PLACARDS	CANCER	INDIGESTION
TUBERCULOSIS PLACARDS		

SEX HYGIENE BULLETINS

SET A—FOR YOUNG MEN

A Reasonable Sex Life for Men.
Sexual Hygiene for Young Men.
Vigorous Manhood.
Smash the Line. (The case against the restricted district.)
List of Reliable Pamphlets.

SET B—FOR PUBLIC OFFICIALS AND BUSINESS MEN

Public Health Measures in Relation to Venereal Diseases.
Venereal Diseases—A Sociological Study.
Smash the Line. The case against the restricted district.)
The Need for Sex Education.
A State-wide Program for Sex Education.
List of Reliable Pamphlets.

SET C—FOR BOYS

Vigorous Manhood. (Especially for boys 12 years of age and over.)

NOTE—For boys under 12, see "When and How to Tell the Children" (Set D); portions of "Vigorous Manhood" also may be read to younger boys. Boys 15 years and over may be given Bulletin "A Reasonable Sex Life for Men" (see Set A), at the discretion of the parent.

Sexual Hygiene for Young Men.
List of Reliable Pamphlets.

Any of the above will be sent without charge. Please send for only those bulletins for which you have definite use.

SET D—FOR PARENTS

When and How to Tell the Children.
Venereal Diseases—A Sociologic Study.
The Need for Sex Education.
List of Reliable Pamphlets.

SET E—FOR GIRLS AND YOUNG WOMEN

Your Country Needs You. (Especially for girls 11 years of age and over.)

NOTE.—For girls under 11, see "When and How to Tell the Children" (Set D); portions of "Your Country Needs You" also may be read to younger girls. Girls 15 and over may be given "The Nation's Call to Young Women," at the discretion of the parent.

The Nation's Call to Young Women.
List of Reliable Pamphlets.

SET F—FOR TEACHERS

The School Teacher and Sex Education.
Sex Education in the Home and High School.
Venereal Diseases—A Sociologic Study.
Smash the Line.
The Need for Sex Education.

THE Health Bulletin

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Vol. XXXIV

SEPTEMBER, 1918

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EDITORIAL

BREAKING SILENCE ON THE SEX QUESTION

The Council of National Defense and the War Department have asked the North Carolina State Board of Health to break our long silence on the sex problem. This official request of the country is sufficient; we heed.

Ever since our first parents realized their nakedness and modesty was born, the sex problem has been wrapt in silence. With both the spoken and written word concerning this problem restricted to almost prohibition, ignorance has naturally abounded, and the offspring of ignorance, disease and death, have had a gala time in this large field of public health. But the world moves, things and conditions change, and war accentuates changes. And so conditions arising out of the war or, more truly speaking, revealed by the war, demand that the long maintained silence on the sex problem be broken; that the light of knowledge, through plain and, let us hope and we believe, inoffensive words, be permitted to dispel the miasma of ignorance.

This Bulletin discusses on page 64 to page 71 the first phase, and by far the most important phase, of the sex problem. The subject is one that should receive an attentive hearing from parents, teachers, and ministers.

Parents should understand the subject of sex hygiene in order that they may see to it that the proper information reaches their children at the

right age and in the right way. Teachers should understand the subject of sex hygiene in order that they may check the failure of parents to properly inform their children. To the teacher who will carefully read the article referred to, we feel safe in laying down the challenge that he or she cannot point out any branch of knowledge taught in our schools that is of greater importance than a knowledge of the laws of sex and their relation to development. Ministers should understand this subject on account of its fundamental bearing on character. It is God's law that the physical (we have a right to assume the perfect physical), should condition inspiration and become the means of spiritual life. If ministers would realize this close relation between physical development and moral and spiritual values, they would be in a position to use more of the ounce of prevention in dealing with sin, and would need far fewer pounds of energy in dealing with its grosser effects.

W. S. R.

MEDICAL INSPECTION OF SCHOOLS

We are publishing on another page of the Bulletin this month a review of what has been accomplished under the law enacted by the General Assembly of 1917, requiring a state-wide inspection of all public school children every three years.

The work has been a failure in a few

individual counties, because the physicians who accepted the office of Medical Inspector have made little effort to perform the duties conscientiously. But considered as a whole, the move has been an undoubted success.

The most gratifying feature of the year's work has been the uniformly satisfactory work of the teachers of thirty-two counties in completing the preliminary examination of the children. In all except two or three counties their work was well done. As a direct result of the teachers' examinations, and before the medical inspector could make a more expert examination, numbers of children have been taken to specialists, dentists, etc., and treated; and literally hundreds of parents have become interested in the personal hygiene of their children.

To be entirely successful, medical inspection must accomplish two things: First, teach applied hygiene; second, find the defective children and get them treated.

Judging success by the above standards, the following represent the counties which should be placed in the honor column for a job well done: Madison, Franklin, Gaston, Mecklenburg, Caldwell, Hertford, Transylvania, Wake, Martin, Guilford, Edgecombe, Nash, Northampton, Lenoir, Davidson, Robeson, Rowan, Forsyth and Wilson.

On July 15th five excellent young dentists were employed jointly by the State and County Boards of Health and set to work in five of the above named counties offering free dental treatment to school children. At the end of the first week's work they had treated the teeth of 686 children.

Supplies have been ordered, and will probably be in place by the time this is published, for the equipment of two first-class permanent dental infirmaries in connection with the schools in the towns of Kinston and Salisbury. The first named will be installed in the

graded school building and the latter in the courthouse. Each outfit costs about five hundred dollars.

The local dentists are giving substantial aid in this move. Thus the plans for giving all the State's little ones an even chance in life are meeting with abundant success.

We need the moral support and encouragement of all the public spirited citizens of the State, regardless of creed or party, in this great work for the children.

Reader, may we have your active assistance?

G. M. C.

HAS YOUR DOCTOR ENLISTED IN THE VOLUNTEER MEDICAL SERVICE CORPS?

The design shown on the cover page of this Bulletin, worn on the lapel of the coat, is the mark that distinguishes the doctor who has placed himself under the orders of his Government from the doctor who has declined to do so.

Neither age, sex, nor physical condition debar a doctor from enlistment in the Volunteer Medical Service Corps. If the doctor is ethical, if he is a graduate of a reputable medical college, and if he is patriotic, he is enlisted in the Volunteer Medical Service Corps.

The doctor who is a member of the Volunteer Medical Service Corps is one who not only approves the selective draft for others, but who has applied it to himself. He has agreed, in writing, to permit the Council of National Defense to classify him and to decide whether he shall serve his country in a civilian or military role during the war. He has placed himself under orders. To him the voice of his country and the voice of duty are in perfect harmony.—W. S. R.

IN THE TOILS OF THE LAW

PROSECUTIONS BROUGHT BY THE STATE BOARD OF HEALTH DURING THE MONTH OF JULY, 1918

CAUSE.	DEFENDANT	JUDGMENT
Violation of Quarantine Law	Dr. G. A. Brown, Mt. Ulla---	Guilty : \$15 and cost.
" " "	Dr. W. G. Taylor, Mooresville	Guilty : \$18 and cost.
" " "	Dr. J. W. Wilkins, Mt. Olive	Not guilty.
" " "	Dr. T. L. Helms, Seagrove--	Guilty : \$1 and cost.
" " "	Dr. C. E. Wilkerson, Randleman -----	Guilty : Payment of cost.
" " "	Dr. L. M. Fox, Asheboro----	Guilty : \$10 and cost.
" " "	Dr. C. S. Tate, Ramseur ---	Guilty : Payment of cost.
" " "	Dr. F. B. Spencer, Salisbury-	Guilty : \$5 and cost.
" " "	Dr. J. E. Smoot, Concord----	Guilty : \$3 and cost.
" " "	Dr. A. H. McLeod, Aberdeen	Guilty : \$5 and cost.
" " "	Dr. H. E. Bawman, Aberdeen,	Guilty : \$5 and cost.
" " "	Dr. J. S. Massey, Monroe--	Guilty : Payment of cost.
" " "	Dr. F. D. Quick, Rockingham	Guilty : 1c and cost.
" " "	Dr. J. S. Perry, Hamlet----	Guilty : \$10 and cost.
" " "	Dr. G. P. Reid, Forest City-	Guilty : \$1 and cost.
" " "	Dr. G. P. Reid, Forest City-	Guilty : \$1 and cost.
" " "	Dr. Frank Rolinson, Lowell-	Guilty : \$1 and cost
" " "	Dr. D. A. Garrison, Gastonia	Guilty : \$1 and cost.
" " "	Dr. R. E. Rhyne, Mt. Holly--	Guilty : \$1 and cost.
" " "	Dr. Chas. H. Pugh, Stanley--	Guilty : \$1 and cost.
" " "	Dr. H. J. Erwin, Gastonia--	Guilty : \$1 and cost.
Total number of indictments for July-----		21
Total cost for bringing indictments for July-----		\$320.00
Total collected in fines for July-----		59.01
Loss to State during July -----		\$260.99

INDICTING PHYSICIANS IS AN UNPLEASANT DUTY

Prosecutions were brought by the State Board of Health during the month of July against twenty physicians of the State for violations of the State quarantine laws. The law with regard to the reporting of contagious and infectious diseases is very plain. Its language is such that it cannot be misunderstood by any intelligent person. It requires every physician to report such diseases that he attends promptly to the county quarantine officer. The law is equally plain in plac-

ing upon the State Board of Health the duty of enforcing its provisions.

This duty is not a pleasant one but it is one which the State Board of Health has no intention of shirking. Every case of a violation of the quarantine laws will be prosecuted regardless of whom may be affected. In doing this the State Board of Health is not only performing its manifest duty under the law but it is rendering North Carolina a safer place of residence for all the people. The prompt control of contagious and infectious diseases is possible only with a prompt knowledge of

their occurrence. Such knowledge can be obtained only when the attending physicians make prompt reports as required by the law.

From a financial standpoint the prosecutions for July entailed a heavy monetary loss upon the State. The cost of bringing these actions before local magistrates totaled \$320. Fines were imposed totaling \$59.01. The net loss to the State in dollars and cents was \$260.99. The fines in these cases go to the county school fund. In some cases the convicted physicians were allowed to go free upon the payment of the costs. In one case a fine of one

cent was imposed. In a number of others the fine was only one dollar.

Apparently the magistrates of the State do not consider the violation of the State quarantine law a matter of much seriousness. The fact that in each case the failure of the physician to obey the law meant the useless exposure to illness and possible death of a large number of people seems not to be considered by the justices who sit in judgment. When fines are imposed of sufficient size to be felt there may be expected a material improvement in the observance of the law. R. B. W.

TWO CASUALTY LISTS

A STUDY IN CONTRASTS

In France, to August first this year, 86 Tar Heels have given their lives gloriously, or been wounded, in the great battle against the Huns. In North Carolina, during the same period, 1,379 citizens of the State have needlessly given their lives, or suffered through weeks of illness, because of typhoid fever. The 86 who died or were wounded in France fell in the performance of a necessary duty. The 1,379 who died or were sick in North Carolina from typhoid fever died or suffered from the most preventable of preventable diseases. Here are the two casualty lists: .

KILLED ON FIELD OF HONOR.

Findley M. Shuler, Bryson City; Bertram T. Clayton, Salisbury; Robert B. Anderson, Wilson; Silas Triplett, Hunting Creek; Raymond E. Cuthbertson, Nebo; Lewis T. Strickland, Cero Gordo; George C. Wright, Biscoe; John E. King, Asheboro; Edward C. Pitt, Rocky Mount; Cyrus P. Adcox, Fayetteville; Leslie Vinters, Shelmardine; James L. Woodsides, Statesville; C. L. Capps, Lucama; Harry Watson, Raleigh; Joe L. Orr, Matthews; Edward L. Sledge, Asheboro; David M. Wright, Lincolnton; George A. Ball, Monroe; Robert E. Wilcox, Hendersonville; Wm. Dudley Robbins, Raleigh; Jos. D. Rountree, Kinston; Ashby J. Downey, Roanoke Rapids; Jasper W. Thomason, New Bern; John F. Blalock, Hamlet; John C. Paisley, Gibsonville; John C. Wilford, Asheville; Andrew J. Higgins, Ennico; Jean Kendall, Elkinville; Arvin D. Teague, Gastonia; Marshall C.

KILLED AT HOME BY TYPHOID

Artt Barbee, Durham; Josie Hartman, South Side; Iola Darden, Goldsboro; Ady Williams, Wilson; Ethel Whitner Huskey, Asheville; John Hedden, Morehead; Sevier Hyman, Williamston; Lillie Fleming, Greenville; Oscar King, Durham; Walter Smith, Durham; May Nelson, Winston; Peris Denison, Tabor; Frank Howard, Wilmington; R. C. Melvin, Lake Creek; Robert Baird, Morganton; George Yates, No. 5 Township; Georgiana Bennett, Bogru; Carrie Crawford, Melville; James Nichols, Asheville; Albert Coffey, Elk Mt.; Allid Griffith, China Grove; Ethel Mae Taylor, Grassy Creek; Horace Palmer Shearin, Sixpound; James Edwards, Gastonia; John W. McCollum, Greensboro; Sol McClain, Hendersonville; Addie Susan Huggins, Kinston; U. S. Davis, Crooked Creek; Lillie Goodrich, Wilmington; Lloyd G. Hamilton, Wilmington; Cholly Martin, Pantego; Viola F.

Smith, Morganton; Grady Humphries, Laurel Hill; Pressley R. Brown, Morganton; James C. Loder, Wilmington; W. T. Shaw, Jr., Weldon; James H. Holmes, Hendersonville; Curney Page, Wilson; Faison Harris, Goldsboro; Lynn H. Harriman, Concord; John W. Hassell, Williamston; John D. Huffman, Hickory; James Baughn, Washington; Millard T. Parrish, Smithfield; Arthur Bluetenthal, Wilmington; Clayton Worth Starr, Greensboro; A. A. Thompson, Elizabethtown; Will Bowden, Morganton; Cliff N. Bissett, Wilson; Max Swink, Connelly Springs; Guyser Canipe, Cherryville; Harry Daly, Charlotte; Evans Pegues, Osborne.

SERIOUSLY INJURED IN PERFORMANCE OF DUTY

James K. Rosser, Broadway; William Mason, Forney; Fred F. Sorrell, Burnsville; Dolphous C. Cooper, Jacksonville; Ernest G. Lawrence, Gastonia; Edgar C. Lewis, Ashland; Willard Franklin, Green Mountain; Van Buren Hair, Elease; Henry W. Morrow, Albemarle; John H. Trift, Gastonia; Fred W. Corzine, Concord; Dewey A. Shepherd, Franklin; Joe M. Parker, Stem; Chas. H. Barckley, Rosemary; Ed Helmes, Waxhaw; William A. Thompson, Durham; William A. Cross, Franklinville; John E. Crow, Raleigh; Bruce A. Spencer, Campbell; Chas. E. Dysart, Senia; Jas. B. Chapman, Taylorsville; William A. Elkins, Fayetteville; Jack Hicks, Canton; Charlie Beck, Durham; Eugene L. Smith, Wadesboro; Whitson Wesley, Winston-Salem; Grover C. Conrad, Lexington; William H. Campbell, Roanoke Rapids; Ralph J. Charles, Winston-Salem; Harry M. Joyner, Concord; Paul E. Cobb, Gastonia; E. McCollom, Wentworth; Allison M. Page, Aberdeen; Jos. Clark, Jr., Kenton; Martin Venable, Winston-Salem.

Dixon, Durham; Turner Simpson, Gilmer, Joe Kickman, Columbia; Dora Brown, Forest City; Lillie Sharp, Charlotte; Otis Deberry, Cheeks Creek; Neoma Lee Boyd, Long Acre; E. V. Umstead, Mangum; William Williams, Elizabeth City; George Dillon, Spray; Lee Baker, Monroe; Ed. Russel, Norlina; Mary Robbins, Blowing Rock; Lucy Dickery, Murphy; John Calhoun Hall, Franklin; Floyd Daniel Rash, Statesville; Jone Spicer, Mayesville; Wm. Harold Adams, Sand Hill; Robert Earnest Fisher, Cedar Creek; Jessie May Garrett, Jerusalem; William Garrison Elliott, Clefton; Willie Graves, Saratoga; Hilda Pearl Watson, Pantego; Laura Estelle Brown, Pollocksville; Bessie Spence, Hertford; Worth Patterson, Stonewall; Amanda McMinn, Hendersonville; William Skinner, Rocky Mount; Amos Monroe Carter, Rocky Mount; Sallie Bet Webb, Marks Creek; Monroe Fisher, Gilmer; Carrie Lewis, Weldon; Mrs. J. H. Peele, Franklinton; Joe Thomas Solomon, Warrenton; Arthur Hunt, East Spencer; Simon Dixon, Olds; Bertha Huffman, China Grove; Margaret Mace, Upper Fork; Ora Lee McLean, Averysboro; Jas. M. McDonald, Concord; Clara Belle Broadwell, White Oak; Ira B. Massingill, Four Oaks; Harrison Sinclair, Charlotte; Eugene Lewis, Charlotte; Winnie Harper, Wilmington; McKinley Abernethy, Pittsboro; Rebecca Elliott, Clefton; Mamie Grady, Burgaw; Mary Davis, Sandy Ridge; Jessie Simms, Durham; Willard Write, No. 2; Eula White, Windsor; Jas. A. Locklear, Lumberton; Leonard Howie, Concord; Kellie Bell Colfield, Edenton.

SERIOUSLY INJURED THROUGH CARELESSNESS OR IGNORANCE

Aulsey Trolinger, Haw River, Route 1; Percy McAdoo, Graham; John Holt, Graham, R. F. D.; Jno. Coble, Haw River; Lacy Freeland, Graham; Mrs. W. T. Hudgins, Burlington, R. F. D., 9; Carrie Crawford, Mebane, R. F. D. 1; Son of Robt. Little, Taylorsville; Mrs. D. H. Wall, Ridgeland; Mrs. J. L. Livingston, Wadesboro; Winston D. Tyler, Wadesboro; Judea Mathis, Plumtree; Glover Allen, Pungo; Homet Currie, Chocowinity; Son of Jessie Barrington, Chocowinity; Child of Mrs. Fannie Mozell, Washington, R. F. D.; Mrs. E. Cox,

Washington R. F. D.; Mary E. Vicks, Pantego; B. B. Dowds, Washington; Lucille Bates, Washington; Mary Jackson, Washington, R. F. D.; J. T. Mellburn, Bellhaven; Zacky Bell Gray, Washington; Mamsie Cooper, Bath, R. F. D.; Carl Daw, Bellhaven; Daniel W. Blount, Ransomville, R. F. D.; Julia Stilley, Edward; Ed Kilie Stilley, Jr., Edward; Barney Stilley, Edward; Willie Eliz. Cherry, Washington; Etta Lee Allegood, Washington, R. F. D.; Jno Faulk, Windsor, R. F. D. 4; Willie Collins, Woodard; Child of Willie A. White, Askewville; Bernice Taylor, Windsor; Bingham Hall, Windsor; Robert Taylor, Windsor; H. B. Register, Elizabethtown; Henry Ezzell, Clarkton; Florence Guyton, Council, R. F. D.; Frank Ransom, Council; Mary Browne, Council; Love Butts, Council; Austin Guyton, Council; John Johnson, Clarkton; Mattie Ezzell, Clarkton; Bessie Ezzell, Clarkton; Lilla Davis, Clarkton, R. F. D.; Taft Davis, Clarkton, R. F. D. 3; Gilbert Davis, Clarkton, R. F. D. 3; Frances Joyner, Southport; Mrs. Lilly Swain, Southport; Pearl Wright, Elk Mountain; Evelyn Brown, Asheville, R. F. D. 4; Thomas Andus, Asheville, R. F. D. 5; Mrs. E. Burrell, New Bridge; Jean Rogers, Lincester, R. F. D. 1; Mrs. Clinton Hawkins, Alexander, R. F. D. 1; Oscar Ingle, Odessa; Miss Julia Israel, Candler; May Johnson, Morganton; Child of Frank King, Morganton; Ota Novy, Joy; Effie Walton, Morganton; Child of Daisy Harbism, Morganton; Elmire Fulcher, Beaufort; D. Brooks, Beaufort; One Case, Morehead City Hospital; Lessie Piner, Williston; Elmire Saulter, Beaufort; Cicero Willis, Beaufort; Etta Bobb, Atlantic; Polly Fulcher, Sea Level; Bertie Salter, Beaufort; Gertie Salter, Beaufort; T. J. Mitchell, Beaufort; Annie May Swinson, Mansfield; C. L. Bates, Morehead City; Mrs. Cicero Wilkes, Beaufort; Martha Miles, Altamahaw, R. F. D. 2; Jas. P. Walker, Union Ridge, R. F. D. 1; Lottie Williams, Leasburg; Thomas Williams, Leasburg; Son of Wm. Walker, Valmad; Thomas Newton Clark, Lenoir, R. F. D. 5; Rose Kaylor, Rhodhiss; Child of Mrs. T. Justice, Hudson, R. F. D. 1; Sarah Penley, Mortimer; James Williams, Rhodhiss; Heber Barker, Rhodhiss; Lawrence Clow, Hudson; Mrs. W. H. Baker, Rhodhiss; W. H. Baker, Rhodhiss; Hart Patterson, Lenoir (West End); Roberta Payne, Granite Falls; Virginia Payne, Granite Falls; Maggie Moore, Globe;

Mary Tilly, Granite Falls; Harry Johnson, Lenoir; Elizabeth Sudduth, Lenoir; Martha Hormon, Blowing Rock; Mary, Jno. and Lucy Robinson, Glass; Raymond McColl, Concord, R. F. D. 6; Luther W. Misenheimer, Concord; Child of Jap Morris, Concord, R. F. D.; Beatrice Russ, Concord; Troy Love, Stanfield, R. F. D. 2; J. M. McDonald, Concord; Jas. Hough, Concord Hospital; Walter Colloway, Concord; Child of D. R. Yarboro, Concord; S. E. McDonald, Concord; Novella Dry, Concord; Mrs. C. L. White, Concord; Geo. Benfield, Concord, R. F. D.; Child of Jessie Berryfield, Concord; Jesse Pharr, Concord; Green Harris, Kannapolis; Mrs. O. B. Efird, Concord; Master Hatley, Concord; Mary Weathers, Maiden; Newt Adams, Hickory; Lucy Thomas, Hickory; Mrs. Zell Weathers, Newton; Carl Hicks, Maiden; Roly Fight, Maiden; George Smith, Hickory; McKinly McCoble, Newton, R. F. D.; Jessie May Byrd, Morrisville, R. F. D. 1; McKinley Abernethy, Pittsboro; Thos. C. Ruth, Pittsboro, R. F. D. 3; Mrs. Sallie Headen, Siler City; Lessie Marsh, Bear Creek; Emma Thomas, Culberson; Dillard McFee, Murphy; Gertie Moore, Murphy; William H. Bryant, Patrick; John Mayo's daughter, Tyner, R. F. D.; Mrs. J. M. Private, Edenton; William M. Williams, N. Edenton; Mabel Bridges, Shelby R. No. 4; Lane Brooks, Shelby; Samuel Brooks, Shelby; Randolph Hogan, Shelby, R. 7; Toni Nichols, Fair Bluff; Mrs. C. C. Saunders, Freeman; Joe Daniel, New Berlin; Calvin Everitt, Acme; Forest Williams, Bolton; Mrs. Nora Spicer, Bolton; Russell Webb, New Berlin; Bessie Kelly, Bolton; Mary Bennett, Hallsboro; W. G. Boyd, New Bern; H. B. Watson, New Bern; R. E. Phillips, Bridgeton; L. H. Wilson, Dover R. 1; R. D. Gurman, New Bern; Allila Davis, New Bern; Sylva Ward, New Bern; D. C. Gilbert, New Bern, R. 1; H. A. Humble, New Bern; Katie Bell Smith, New Bern; Jesse Murphy, Grifton; Clarence Wood, Cove; P. A. Dixon, New Bern; Frank Jones, New Bern; Phillip, Fred and Mary Dixon, New Bern; Mrs. Geo. Oglesby, New Bern; Milliard Everitt, Fayetteville; Daughter of W. A. Holder, Fayetteville, R. F. D.; Nonie Faircloth, Fayetteville, R. F. D.; Inez Holder, Fayetteville, R. F. D.; Blanch Smith, Fayetteville, R. F. D.; Koonie McLauchlin, Fayetteville, R. 3; Richard Nunery, Stedman; Harry Scarborough, Jr., Fayetteville, R. F. D.; James V.

Roberts, Fayetteville; Child of Clarence Starling, Fayetteville; Ella Elliott, Fayetteville, R. 6; Elma Melvin, Cedar Creek, R. 1; Rosa Cromartie, Fayetteville; Ed Brady, Hope Mills; Alice Baker, Fayetteville; Mrs. Alfred Green, Fayetteville; Sarah Melvin, Cedar Creek, R. 1; Robert Fisher, Lena; H. A. Caulk, Boardman; Willie McKay, Fayetteville; Mrs. J. W. Adcox, Fayetteville, R. F. D.; Rosa Bullock, Autryville; Mrs. J. A. McLean, Fayetteville, R. F. D.; Zeb Lee Floyd, Lexington, R. 1; Oscar Fuller, Parker Town, R. 6; John Ledwell, Kernesville, R. 1; Mary Fitzgerald, Linwood, R. 1; Hartie Shoaf, Lexington, R. 6; Viola Hinkle, Welcome; Rosa Harrison, Lexington; Bessie Allison, Linwood, R. 1; Bettie Hicks, Thomasville; Julia Byerly, Thomasville; Roy Williams, Mocksville; Don Wiggins, Mocksville, R. 1; George Holman, Mocksville; Swade Koontz, Mocksville, R. 1; Jesse Lumston, Cooleemee; A. J. Wilson, Durham; Mrs. C. J. Seagrove, Durham; L. C. Adams, Durham; Jessie Simms, Durham; Edna M. Marshall, Durham; Sampson Johnson, Durham; John Flintoff, Durham; Rosa Parker, E. Durham; Boy of Mrs. Cora Yates, Durham; Ed Williamson, Durham; Elis Jones, East Durham; Leslie and Jessie Hopson, East Durham; Elberta Tilly, Durham; Cora Lyon, Durham; Mary Parker, East Durham; Mary McCullen, Durham; Maggie Latta, Durham; Wallace Marshall, Durham; Nossie Williams, Durham; Bonnie Cotton, Durham; Fletcher Harris, W. Durham; George Strickland, Durham; Alta Stone, E. Durham; Lucille Barber, E. Durham; Ike Richardson, E. Durham; Myrtis Pickard, Lakewood; Mrs. Walker Tingen, Durham; Onis Ellington, E. Durham; Junior White, W. Durham; I. Tanaka, Durham; Lois Worham, Durham; Geraldine Barbee, Durham; James Doorns, Durham; Ruby Weisner, Durham; Grace Weisner, Durham; Temple Hart, N. Durham; Ethel Joffe, Durham; Ruth Davis, Durham; Gertrude McCullum, Durham; Jessie Guinn, Durham; Lois Emery, E. Durham; Lewis Rosenburg, Durham; Eugene Stanford, Durham; Sylvia Tyndall, E. Durham; Raymond Calvin, W. Durham; Jas. Gooch, Jr., E. Durham; J. T. Grissom, Durham; Myrtle Barbee, Durham; Taylor, Durham; Annice M. Daniels, Durham; N. W. Glass, Durham; Mary Faucette, Durham; Louise Roberts, Durham; Queen Debnau, Durham; Maud Por-

terfield, Durham; Mrs. L. C. Adams, Durham; Margaret Thompson, Durham; Marvin Travis, Durham; Mrs. Darc Mills, W. Durham; Mollie Williams, Durham; Mrs. J. A. Calvin, W. Durham; M. R. Bennett, Faison; Mrs. Jacob Baker, Magnolia; A. L. Chestnut, Magnolia; Mrs. J. J. Parker, Magnolia; Jack Kornegay, Mt. Olive; Ben Best, Mt. Olive, R. 2; Wilbert Rivenback, Wallace; Mrs. Cassie Dixon, Rose Hill; Susan McIntire, Wallace; Lillian Whitfield, Mt. Olive, R. 1; Mrs. Vance Phillips, Warsaw; Betsy Bradshaw, Faison; Louis Lewis, Faison, R. F. D.; Mary Ashford, Faison; Thelma Graham, Mt. Olive, R. 2; Nancy Thompson, Seven Springs; Walter Dail, Mt. Olive, R. 2; Ina Ritter, Rose Hill; Luther Vandiford, Rocky Mt.; Mrs. James P. Hill, Rocky Mount; Mr. Charlie Williams, Rocky Mount; Francis Jackson, Louisburg; J. B. Bowden, Louisburg; Badger Dorsey Joyner, Louisburg; J. S. Dorsey, Louisburg; Joe, Ella, Della, Fred Spivy, Youngsville; Pauline Timberlake, Youngsville; Ernest Green, Youngsville; Ebba Wright, Louisburg; Vessie Tago Womfrie, Louisburg; Isiah Mayo, Louisburg; Susan Green, Louisburg; Edd Jarvis, Winston-Salem; Child of Mr. C. Mebone, Winston-Salem; Child of E. P. Cohill, Winston-Salem; Mrs. Fred Freeze, Tobaccoville; Annie Young, Winston-Salem; Walter Rivers, Winston-Salem; Walter Swaim, Walkerton; Mrs. Ella Leonard, Winston-Salem; Stella Cloud, Winston-Salem; Samuel Stoltz, Rural Hall, R. F. D.; Herman Foster, Winston-Salem; Major Shields, Winston-Salem; Dora Archer, Winston-Salem; Luther Good, Winston-Salem; Willie Alford, Winston-Salem; Mrs. E. J. Brewer, Winston-Salem; Ada Butler, Winston-Salem; Arlie Whittington, Winston-Salem; Pleas Boyer, Winston-Salem; Hernert Gunthrop, Winston-Salem; Thos. Gunthrop, Winston-Salem; Edgar Chilton, Winston-Salem; Sallie Cornatzer, Winston-Salem; Joe Sparks, Winston-Salem; Thelma Clingman, Clemmons; Alice Ashford, Bessemer City; Joseph Hiatt, Mount Holly; Mrs. Marshall Mitchner, Lowell; Lillie Johnson, Bessemer City; Mrs. Lucy Hendrix, Gastonia; J. L. Brackett's child, Groves Mill; Ardie E. Lambert, Gastonia, R. F. D.; Janie Roach, Mayworth; Joe Jenkins, Gastonia, R. 2; Thomas Boyles, Jr., Bessemer City; Exie Mayberry, Mount Holly; John Smith, Mount Holly; Jessie Ward,

Mount Holly; Lelia Pryor, Mount Holly; R. E. Ingram, Gastonia; Ivory Roach, Gastonia; Florence Robinson, Gastonia; Maggie Perkey, Gastonia; Everett Hoover, Gastonia; Josie Owens, Dallas; Polly Green, Mount Holly; Esther Lowe, Mount Holly; Child of T. M. Brockman, W. Franklinville; Wiley Friday, Gastonia; Lonnier Ragan, Gastonia; Etta Lethco and May Lethco, Dallas; Charlie Carpenter, Mount Holly; Carl McIntyre, Gastonia; Sid Caldwell, Dallas; Child of Mason Carpenter, Crouse; Bobbie and Jehovah Jenkins, Gastonia, R. 2; Maggie Parker, Gastonia; Letha Fox, Gastonia; Frank Wiggins, Flint Mill; D. O. May, Gastonia; Ed. Williams, Gastonia, R. 1; Hallie Russell, Gastonia; Wilbern Carr, Gastonia, Grove Mill; Frank Ford, Stanly; Susie De Lane, Cherryville; Mrs. Alonzo Killian, Mount Holly; Albert Raby, Gatesville; James Skinner Harrell, Eure; Will Squilliams, Cherah; Mrs. Dave Philips, Franks Creek; Lucius Hyatt, Cherah; Carmel Rich, Robbinsville; Rilla Hyde, Cherah, R. 1; Mrs. Clara Rich, Sweet Gum; Arthur _____, Mountain Creek; Vena Rodgers, Atorah, R. 1; Roy Colvard, Robbinsville; Cora Jeffreys, Oxford; Maggie Yaney, Oxford; Mrs. J. R. Walton, Wake Forest; J. K. Edwards, Stem, R. 2; Ed. Simmons, Bullock; George Shepherd, Bullock; Eddie Shepherd, Snow Hill; Lonnie Grizzard, Snow Hill, R. F. D.; Jim Shepherd, Snow Hill, R. F. D. 1; Lee Best, Snow Hill, R. F. D. 4; Mrs. Swift Mooring, Snow Hill, R. F. D.; Sam Sugg, Snow Hill, R. 1; Fannie Sugg, Snow Hill, R. 1; Willie Beamon, Walstonburg; Willie Tason, Walstonburg; Lyman Munroe, Snow Hill, R. F. D. 2; Thomas Cannon, Snow Hill, R. F. D. 2; Mrs. Virginia Mooring, Hookerton; Simon Dixon, Snow Hill, R. F. D. 2; Dewey Braxton, Snow Hill, R. F. D. 3; Alex Sugg, Jr., Snow Hill, R. F. D. 4; Hanna Moore, Walstonburg; Beal Bowen, Ayden; Ellen Newborn, Farmville, R. F. D. 1; Nicie, Wm. and Fred Woodard, Stantonburg, R. F. D. 1; Eddie Davis, Snow Hill, R. F. D.; Walter Grant, Snow Hill, R. F. D.; Mrs. Fondy Hudson, Snow Hill, R. F. D. 6; Will Edwards, Ayden, R. F. D. 1; Chas. Taylor, Greensboro, R. F. D.; Frank Bevans, Jamestown; W. F. Chadwick, Jamestown; Minnie Wyrie, Brown Summit; Henry Kendricks, Denim; Virgil Kivett, Glenwood; Geneva Newton, High Point; Lula Mae Young, Greensboro; W. R. Edwards, Greensboro, R. F. D. 3; Mrs. L. P. Byers, High Point; Geo. Wall, High Point; Child of C. T. Grissa, High Point; Amy Williams, High Point, R. F. D. 2; Mrs. Hendrix, High Point; Elliott Hiatt, High Point; Jeff Oakley, Greensboro; Garland Denny, Denim; Will Sellers, Greensboro; Carry Jones, Weldon; Alice Powel, Enfield, R. F. D. 1; Nep Jenkins, Weldon; Mrs. S. B. McLean, Scotland Neck; William Jones, Jr., Weldon; William Lee, Scotland; Nick Dempsey, Weldon; W. H. Allen and Edna Earl Allen, Enfield; George Harper, Jr., Rosemary; Robert Fleming, Enfield; Edity Briggs, Roanoke Rapids; Child of James Presley, Canton; Hattie Frazier, Waynesville; Child of J. W. Treadaway, Canton; George McClure, Waynesville, R. F. D. 1; Mrs. John Smith, Canton; J. W. Stewart, Canton; Caley Jones, Canton; Nathan Bass, Dunn; Mrs. L. B. Baggett, Dunn; Ora Lee McLean, Dunn, R. 3; Clarence McRay, Dunn, R. F. D. 3; Purvis Smith, Duke, R. F. D. 1; Hattie Bell Tart, Dunn; Mrs. Make M. Porter, Duke; J. W. McNeill, Lillington; Roena Tart, Dunn; Salomi D. Moore, Dunn; Mattie Bell Hinton, Dunn; Lula Williamson, Dunn; Wm. Washington Monds, Dunn, R. F. D., 6; Queen Esther Toon, Dunn; William Smith, Duke, R. F. D. 1; Maggie McNair, Dunn; Mrs. J. P. Tart, Dunn; Paul and Nora Hodges, Lillington; Katie and Jessie Williams, Hendersonville, R. F. D. 3; Mary Brown, Hendersonville; Lula Vaughan, Winton; Essie Lee Myrick, Comeo; May and Tom Padderson, Lumber Bridge; Arquis Padderson, Dundarrach; Cad Barber, Raeford; Floyd Rash, Statesville, R. F. D. 3; Ashley and Henry Benton, Statesville; Child of C. W. Shenk, Statesville; Child of Ab Allison, Turnersburg; Birdie Stine, Statesville, R. F. D. 7; John Horn, Statesville, R. F. D. 7; Knox Gunn, Elmwood, R. F. D. 1; James L. Moon, Mooresville; Hood Reid, Troutman; Nathan Bullard, Troutman, R. F. D. 2; Flora Connor, Mooresville; Beulah Pressley, Statesville; Annie Elliotte, Statesville; David Miller, Salisbury, R. F. D. 4; Georgia Stevenson, Statesville; Alice Bates, East Spencer; Sam Hartsell, Troutman; Clarence Martin, Whittier, R. F. D. 1; Clifton Moody, Erastus; C. E. Moss, Webster; Will Temples, Benson; Moses Williams, Clayton, R. F. D.; Pearly Cox, Pine Level; W. G. Pittman, Kenly, R. F. D. 2; Mrs. Bennett Barber, Four Oaks;

Gilbert Jones, Wilson's Mills; Andrew Ellis, Selma; Child of Chas. E. Lee, Four Oaks, R. F. D. 1; Ira D. Massengill, Four Oaks, R. F. D. 2; Dora Creech, Selma; Child of Otho Archibald, Clayton, R. F. D. 1; Elsie Mae Gardner, Pine Level; Ida Woodard, Princeton; Wilbert Striddard, Princeton; Arthur E. Langley, Pine Level, R. F. D.; Dewey Watson, Pine Level; Mrs. Willie Lee, Four Oaks, R. F. D. 2; Mrs. Julia Stallings, Princeton, R. F. D. 3; Sudie Reid, Princeton; Sandy Tarner, McCullers, R. F. D. 1; Mrs. Isaac Stallings, Princeton; Sanford Aycock, Micro; Omega Watson, Pine Level; E. G. Allen, Four Oaks, R. F. D.; Alma Allen Lee, Four Oaks, R. F. D.; Mrs. J. Jones, Smithfield, R. F. D. 1; Jerman Jones, Smithfield, R. F. D. 1; Mrs. Marshal P. Lassiter, Smithfield, R. F. D. 1; Arrah Mitchiner, Smithfield, R. F. D. 1; Child of Turner Yarboro, Zebulon, R. F. D. 1; Jane Spicer, Maysville; Child of J. P. Rouse, Maysville; Emma Hines, LaGrange, R. F. D.; James Bryant, LaGrange, R. F. D.; Leo Banks, Hookerton, R. F. D.; Child of Mrs. Norris Davis, Kinston, R. F. D. 6; Person Nicholson, Kinston; Astizerl Rhodes, Webbs Block City; Elias Coward, Grifton; Two Children of Jim Dunn, Grifton; Child of J. Ella Rhoades, Kinston; E. E. Rouse, LaGrange; Raymond Brown, Kinston, R. F. D. 3; James McRae, Kinston; Charlie Ross, Kinston; K. Allridge, Deep Run; Gladys Allridge, LaGrange; Iva Turner, Seven Springs; Child of Joe Kittrell, Kinston, R. F. D.; _____, Falling Creek; Rosa Askew, Kinston; May Holt, Moncure, R. F. D.; T. A. Cox, Norman; Cleveland Cody; Lincolnton; Mamie Kiver, Lincolnton; Jennie Kiver, Lincolnton; Mrs. Julia Sain, Lincolnton, R. F. D. 2; Fannie Michael, Iron Station; Kate Seagle, Lincolnton; Hazel Leib, Marshall; Chas. Lander, Hot Springs; Novella Bullock, Robersonville, R. F. D. 1; Rosetta Holman, Williamson; Fannie Bullock, Robersonville, R. F. D.; Lawrence S. Ellis, Jamesville; Mayo Hardison, Williamson; Elizabeth L. Roebuck, Williamson; Chas. Manning, Williamson; Rosa Baker, Robersonville; James Pope, Robersonville; Earl Savage, Robersonville; Pearl Allbritton, Williamson; Wm. H. Boston, Darden; James White, Williamson; Pauline Sykes, Darden; Mary Simpson, Darden; Martha Boston, Darden; Mack Boston, Darden; Maynard Boston, Darden; John Peaks, Williamson, R. F. D.;

Spencer Howard, Oak City; John A. Manning, Jr., Jamesville; Harvey Brown, Hassell; Hazel Brown, Palmira, R. F. D.; Mary Page, Williamson; Columbus Brown, Hobgood; Mrs. F. E. Boone, Williamson; Mittie Taper, Jamesville; Archie Newton, Jamesville; Alton Hodge, Jamesville; Alphonzo Purvis, Williamson; Marie Burnett, Oak City; Lizzie Brown, Hobgood; Albert Doggett, Oak City; Phelix Staton, Oak City; Francis Jones, Williamson; Vera Stubbs, Jamesville; Luke Edmundson, Palmira; Howard Tayloe, Williamson, R. F. D.; Alice Pickering, Charlotte; G. G. Pope, Charlotte; Mabel Silvey, Charlotte; Sarah Leason, Charlotte; J. F. Rhyne, Charlotte; Aline Monroe, Charlotte; Blissie Yandle, Charlotte; Vernon Williams, Charlotte; Dave Williams, Charlotte; Emma Shoemaker, Charlotte; Margaret Yandle, Charlotte; Mrs. Senter, Charlotte; W. B. Ashley, Charlotte; H. C. Beal, Charlotte; Earnest Wheatley, Charlotte; D. E. McGowan, Charlotte; Ornie Beckham, Charlotte; Mrs. E. R. Frank, Charlotte; R. D. Danner, Charlotte; Mrs. John L. Scott, Charlotte; Miss Nora Eyan, Charlotte; Miss Minnie Allison, Charlotte; Francis Smith, Charlotte; Minnie Allen, Charlotte; Norman Allen, Charlotte; Edna Allen, Charlotte; Elizabeth Hall, Charlotte; Mrs. Elizabeth Sawyer, Charlotte; Edith Beard, Charlotte; Emma Tucker, Charlotte; Mattie Lee Tucker, Charlotte; C. W. Tucker, Charlotte; Vera McTye, Charlotte; Chas. Antonio, Charlotte; Willis Newsom, Charlotte; Willis Hooper, Charlotte; Bertha Cook, Charlotte; Jesse Pope, Charlotte; Alver Kizer, Charlotte; S. Davis, Charlotte; Inez Coulton, Charlotte; M. B. Alexander, Charlotte; Alice Walker, Charlotte; Miss Zola Silver, Charlotte; Mrs. T. R. Gibbs, Charlotte; Edna Mayo, Charlotte; Lenoir Wright, Charlotte; Mrs. K. W. Selden, Charlotte; Grace Connor, Charlotte; Florence Stuart, Charlotte; Francis Wallace, Charlotte; James Gibson, Charlotte; Lucille Cook, Charlotte; Carl Johnson, Charlotte; John Paul Jones, Charlotte; George Rhyan, Charlotte; Louise Pressley, Charlotte; Harrison Sinclair, Charlotte; Arthur Roach, Charlotte; Jessie Bell Nelson, Charlotte; Mamie King, Charlotte; Mary Montaith, Charlotte; J. C. Russell, Charlotte; Lile Ayers, Charlotte; Sanford Caudle, Charlotte; Eunice Moore, Charlotte; George Campbell, Charlotte; Marshall Love, Charlotte; Will

Dodd, Charlotte; Sally Alny, Charlotte; Arthur Hill, Charlotte; Edd Barber, Charlotte; Dottie McKay, Charlotte; Annie Orr, Charlotte; Lonnie Gill, Charlotte; Will Starns, Charlotte; Iadys Cureton, Charlotte; Wash Greer, Charlotte; Celestine Archie, Charlotte; Dr. Tyson, Charlotte; H. T. Holt, Starr; Dave Armstrong, Dry Creek; Eugene Reynolds, Queen; May Sanders, Capelsie; Mrs. Maude McMullan, Starr; Brownie Armstrong, Sulphur Springs; Ernest Jackson, Pinehurst; Lacy Jackson, Pinehurst; Alma McMillan, Nancy; Two cases, Children of Lee Gillis, Aberdeen; Ernest Brady, Southern Pines; Harold Johnson, Putnam; Willard Tipton, Green Mountain; Leara Tipton, Green Mountain; Piney Lee Parker, Elm City; Child of Thomas Ricks, Spring Hope; Mrs. Norman Dickens, Castalia; Ned Taylor, Whitakers, R. F. D.; Martha Lucas, Wilson, R. F. D.; Lida Mae Hudson, Rocky Mount; Elias Stone, Nashville; Molly Murphy, Nashville, R. F. D. 2; Frank Hyde, Nashville, R. F. D. 1; Mrs. J. L. Dawson, Rocky Mount; Five Children of June Sanders, Whitakers, R. F. D.; Elenora Perry, Rich Square; Willie Smith, Garysburg; Fannie Turner, Garysburg; Katie Smith, Garysburg; Lorene L. Baughan, Rich Square; Mrs. Willie Smith, Garysburg, R. F. D. 1; Helen White, Murfeesboro; Baby Sidberry, Wilmington; Bennie Scottie, Wilmington; Wesley McKay Keaton, Wilmington; Jeneva Torrence, Wilmington; Rodney Fryer, Wilmington; Bettie A. Daniels, Wilmington; Chimmis Russ, Greenville Sound; Bettie Lynn, Durham; Lorena Kelly, Chapel Hill, R. F. D. 2; Frank Merritt, Chapel Hill; Evander Fauchette, Efland; W. J. Smith, Jr., Hillsboro, R. F. D. 1; Julius Ketchum, Jacksonville; R. C. Warlick, Jacksonville; Kemston Huffman, Richlands; Child of Ed. Hall, Bayboro; Child of John Thomas, Grantsboro; Lowry Overton, Elizabeth City; Zenus Griffin, Jr., Elizabeth City, R. F. D. 6; Cooper McCay, Elizabeth City; Hazel Stanly, Elizabeth City, R. F. D. 1; Julius Jennings, Jr., Weeksville; Henry Shannon, Weeksville; N. Sawyers, Elizabeth City; Mrs. Mary Stanly, Elizabeth City, R. F. D. 2; Nancy Sessions, Weeksville; Children -----, Burgaw; Jimmie Dailey, Burgaw; Estelle Moore, Burgaw; E. C. Sample, Elizabeth City, R. F. D. 5; Ida Bell Moore, Burgaw; Ray Moore, Burgaw; Clifton Moore, Burgaw; Loyd Moore, Burgaw; Varner Savage, Burgaw; Denis Artis, Burgaw; Mary Elizabeth Harrell, Hertford; James Coston, Chapanoke, R. F. D.; Bessie Spence, Hertford; Mrs. Nellie Benson, Winfall, R. F. D. 1; Sydney Hollowell, Hertford, R. F. D. 2; Ella May Skinner, Burgess, R. F. D. 1; Ulysses Skinner, Burgess; Elizabeth Harrell, Hertford; Marion Reid, Hertford, R. F. D. 1; Dorothy Reid, Hertford, R. F. D. 1; Henry Walton White, Tyner; Catharine Bailey, Hertford; Bessie Mebane, Hertford, R. F. D. 3; Edward Mebane, Hertford, R. F. D. 3; Lillian Mebane, Hertford, R. F. D. 3; Osby Perkins, Roxboro, R. F. D. 2; Ralph Wilkerson, Woodsdale, R. F. D. 1; Sid Wrenn, Jr., Roxboro, R. F. D. 4; Ruffin Prayer, Jolong; Miss Addie Reaves, Jolong; Mary Carr, Grifton; Pandalia Gorganus, Greenville, R. F. D. 3; Flossie Brigman, Greenville; George Williams, Greenville; Jessie Lee Moore, Greenville; Julius Johnson, Greenville; James Tournage, Greenville; A. H. Howell, Farmville, R. F. D.; Frank Brown, Winterville; Lee Williams, Ayden; Mrs. John Phillips, Ayden, R. F. D. 1; Child of Ada Hunter, Grifton; Herman Wilson, Winterville, R. F. D.; Emma Mills, Greenville, R. F. D. 4; Willie Vines, Grimesland; Mary Wilson, Ayden, R. F. D.; Isadora Morriess, Chicoed; Benny Logwell, Farmville, R. F. D.; Raymond Ward, Farmville; Lillie Ward, Farmville; Pearl Brosn, Winterville; J. I. Barrett, Farmville; Jasper Cannon, Grimesland; C. C. Johnson, Greenville; Lerpy Parker, Fountain; Blanch Cherry Staton, Greenville; Johnie Gray Currin, Greenville; Mrs. Lucinda Nobles, Greenville; Alice Baker, Ayden; Mary Worthington, Greenville; Eddie E. Jackson, Greenville, R. F. D. 6; Mary E. Flowers, Ayden; Clarence Hackett, Millboro, R. F. D. 1; Cleston Hackett, Millboro, R. F. D. 1; Paul Melton, Coleridge; W. T. Johnson, Ramseur; Bessie Brantley, Ramseur; Child of Mannel Scotton, Liberty; Leon Elliott, Hill's Store; Noly Currie, Rockingham, R. F. D. 3; Lillie Allen, Rockingham, R. F. D. 1; Bossie Allen, Rockingham, R. F. D. 1; Flossie McLendon, Rockingham, R. F. D. 1; Lillie Craven, Ellerbe, R. F. D. 1; Lacy Morten, Ellerbe; Condis Baldwin, Covington; Frank Jones, Hamlet; Edna Matthews, Rockingham; Bogan Chavis, Osborne; Mrs. Julia Webb, Hamlet, R. F. D. 1; J. R. Morgan, Ellerbe; Antry Lee Barnes, Rockingham, R. F. D. 2; Mrs. Susie Ussing, Ent-

wistle; Four Children of Calvin Crouch, Roberdel; E. C. Fisher, Roberdel; Ellen Biggs, Lumberton; Warren West, Jr., Lumberton; Mrs. O. W. Prevatt, Lumberton, R. F. D.; Thurman Parnell, Lumberton, R. F. D.; Macie Brown, Maxton; Mrs. H. Jones, Lumberton, R. F. D. 1; Pearl Locklear, Lumberton, R. F. D.; Jim Locklear, Lumberton, R. F. D. 2; Two children of Jim Locklear, Lumberton, R. F. D. 2; Mrs. Tom Locklear, Lumberton, R. F. D. 2; Rosa Councill, Lumberton; Mrs. E. P. Williams, Maxton; Harrison Turner, Fairmont; Sham Bullock, Lumberton; Mrs. H. D. Tyson, Lumberton; Sallie Harris, Red Springs, R. F. D. 2; Luther Paul, Buie, R. F. D. 2; Mrs. A. M. Walker, Parkton; Travis Bass, Jr., Lumberton, R. F. D. 1; Mrs. Duskin Williams, Fairmont, R. F. D. 3; Missouri Pearsal, McDonald; Virginia Wilson, Orrum; George Wilson, Orrum; Child of Dave Butler, Lumberton, R. F. D.; Child of Arch Chavis, Lumberton, R. F. D.; Ruth Thompson, Lumberton; Viola Stephens, Lumberton, R. F. D. 3; Abe Wilkins, Buies, R. F. D. 1; Kelley Johnson, Fairmont; Robert Livingston, Lumberton, R. F. D. 3; Sally Neal Hooper, Maxton; George Steel, Maxton; Hattie Monroe, Maxton; Ola Hutchens, Mayodan; Ella Hall, Draper; Maggie Burge, Mayodan; Mrs. Edwards, Draper; A. F. Robinson, Mayodan, R. F. D. 1; Walter Vance, Leaksville; Morris Sharp, Leaksville; T. M. Smith, Spray; Mattie Mize, Draper; Exton Steadman, Summerfield; Matilda Sharp, Leaksville; Mrs. George Martin, Spray; Sanford Stowe, Spray; Willie Austin, Draper; B. W. Gray, Mayodan; Will Hayden, Draper; Mrs. Edgar Gilley, Spray; Alfred Wilkins, Mayodan; Sam Anderson, Draper; Annie May Mitchell, Reidsville; Will Kizer, Draper; Dewey Dillon, Spray; Jimmie Dixon, Draper; Lonnie Duggins, Madison, R. F. D. 3; Margaret South, Draper; Ida Austin, Draper; Wm. Hayden, Draper; Lola Knox, Landis; Love B. Long, Landis; Francis Melchor, Landis; Hubert Lyerly, Mt. Ulla, R. F. D.; Wm. Crawford, Barber, R. F. D. 1; Chafman Crawford, Salisbury; Arthur Roseman, E. Spencer; Brude Butner, Salisbury; Dallas Roberts, Landis; Douglas Roberts, Landis; Roy Trice, Landis; Exie Gogleman, Landis; Hattie Fry, Landis; Lovie Gower, Landis; Gayville Cooper, Landis; Frank Slaugh, Landis; Gey Huffman, Landis; Clyde Huffman, Landis; Bertha Huffman, Landis; Shirley

Reid, Landis; Dorothy Trice, Landis; Child of W. E. Lyerly, Mount Ulla, R. 1; Susie Bostian, China Grove; Ray Hoffman, Landis; Mrs. S. J. Kyles, Mount Ulla; Amelia Stirevalt, Salisbury, R. 3; Rosa Overcash, Landis; J. C. Caskey, Salisbury; Roy Cauble, Granite Quarry; Janie Gaskin, Salisbury; John Hall, Salisbury; Mrs. Wood Benson, Woodleaf, R. F. D. 1; Eugene Davis, Salisbury; Alberta McMullin, E. Spencer; Mrs. Jerry Smith, Salisbury; Mrs. Reid Monroe, Salisbury; Mrs. Ernest Hood, Salisbury; Mrs. Nig Graham, Barber, R. F. D. 1; Harry Moore, Spencer; Sadie Overcash, Landis; Docie Carpenter, Landis; D. M. Chatam, China Grove; Mrs. J. V. Sells, Salisbury; Cletus Wyrick, Salisbury; Walter Brawley, Salisbury, R. F. D. 4; Roy Life, Salisbury; Frank Slough, Landis; Gaynell Cooper, Landis; Clyde Huffman, Landis; Bertha Huffman, Landis; Guy Huffman, Landis; Charlie Gilbert, Mount Ulla, R. F. D. 1; Delmer Austin, Salisbury; Child of H. E. Leaffer, Melrose Hdqts., Salisbury; Mont Bost, Landis; Leroy Weaver, Landis; Howard Trexler, Salisbury; Mary Goddy, E. Spencer; Mrs. Jim Osborne, Landis; Joshua Cherry, E. Spencer; Ila Dedmon, China Grove, R. F. D.; Essie Bost, Landis; G. B. Hollifield, Bostic; Belva Taylor, Henrietta; Child of A. L. Davidson, Henrietta; Grayam Hughes, Henrietta; Theron Scruggs, Cliffside; Roy Early, Ellenboro, R. F. D. 2; John Moore, Ellenboro, R. F. D. 2; Thelma Walker, Cliffside; Kathrin Bradly, Forest City; Mrs. J. S. Sherlin, Forest City; Charles Crawley, Forest City; Lawrence Reece, Rutherfordton; Alonzo Johnson, Forest City; Virginia Padgett, Cliffside; Jimie Behealer, Cliffside; E. A. Snipes, Delway; V. Hobbs, Clinton; Fannie Smith, Clinton; Berta Murphy, Delway; Mrs. Cora Herring, Parkersburg; Nina Rich, Clinton, R. F. D.; Mrs. Ann Owen, Delway; Roy Cashwell, Garland; Dervie Faison, Turkey; Lucy Faison, Turkey, R. F. D.; Rufus Dunn, Turkey; Robert Williams, Clinton, R. F. D. 1; Lula Thornton, Clinton, R. F. D. 1; Jackie McNeill, Marston, R. F. D.; Alex Williams, Laurinburg, R. F. D. 1; Hannah Williams, Laurinburg; R. F. D. 1; Jasper Baldwin, Laurinburg, R. F. D.; Mrs. Moze Wilson, Laurinburg, R. F. D.; Amus Shaw, Laurinburg, R. F. D.; Bertine Gladdine, Laurinburg, R. F. D.; W. H. Campbell, Laurinburg, R. F. D.; Child of Neal Chavis, Laurinburg, R. F. D.; Woodrow

Wilson Campbell, Laurinburg, R. F. D.; Sallie McCall, Laurinburg; Nellie Smith, Laurinburg; Child of Sellers McQueen, Hasty; Addie White, Laurinburg, R. F. D. 1; Thomas McKay, Laurinburg; Metta Shaw, Laurinburg, R. F. D.; Charlotte Shaw, Laurinburg, R. F. D.; Trulie Bowers, Albemarle, R. F. D. 3; R. P. Rees, Badin; Louise Russell, Norwood; Etta Blalock, Norwood; Glennie Blalock, Norwood; Slade Wadkins, Norwood; Roy Lowder, Albemarle, R. F. D. 4; J. O. Morton, Norwood; C. Carpenter, Norwood; Nannie Morton, Norwood; Will Wright, Albemarle; Bertha Carpenter, Norwood, R. F. D. 2; Jas. Carpenter, Norwood, R. F. D. 2; John Carpenter, Norwood, R. F. D. 2; Mrs. Luther Furr, New London; Clegg Green, Locust; Child of John Smith, Albemarle; Frank Vernon, Walnut Cove, R. F. D. 6; Nancy Lash, Walnut Cove; Ed. Wilson, Walnut Cove; Eliza Chatman, Winston; Susan Jones, Pinnacle; Roy Fulp, Walnut Cove, R. F. D. 1; Cary Boles, Tobaccosville; Sadie Houchins, Dalton; William Houchins, Dalton; Perry Pretty, King; Nellie Joyce, Mayodan; Ernest Reivson, Tobaccosville, R. F. D.; Sadie Wood, Mt. Airy, R. F. D. 2; Harrison Cockran, Rusk; Mrs. M. L. Key, Rusk, R. F. D. 1; Lora Taylor, Mount Airy; Royal Smith, Kapps Mills; Houston Southard, Elkin, R. F. D.; John Steele, Elkin, R. F. D.; Luther Wood, Rusk; Child of Robert Ertus, Bryson City; M. Bawman Wiggins, Ela; Sarah Pegg, Ela; Anna Rucker, Proctor; Lucy Shyller, Bryson City; Mamie Medford, Bryson City; Bertha Watkins, Bryson City; Children of Mr. Best Latton, Brevard; M. Lex Brooks, Unionville, R. F. D. 2; J. F. Helms, Monroe; J. Thomas, Buford Township; Lee Griffin, Monroe; Jas. Caskey, Monroe, R. F. D. 2; Jane Faulkner, Matthews; M. F. Overby, Henderson; Child of Bud Robinson, Dabney; One case at Fred Scott's, Tourville; One case at Brooks Branch's, Manson; Cora Daniel, Henderson, R. F. D. 7; Blaney Harris, Henderson, R. F. D. 1; Sam Vass, Henderson, R. F. D. 1; Julie Wolfe, Henderson; N. A. Bowen, Henderson, R. F. D. 7; Miss Lucy Burroughs; Henderson; Goode Cheatum, Henderson; Gilbert Capps, Henderson, R. F. D. 5; Lorena Hall, Henderson; Willie Williams, Henderson; Horrace Shearin, Macon: "Doc" Hicks, Wise; Mrs. R. H. Thompson, Warren Plains, R. F. D.; Levi Jones, Warrenton; Theodore Hill, Goldsboro; Harvey Thompson, Fremont; Robert Walls, Mount Walls; James Crawford, Goldsboro, R. F. D. 5; David Boykin, Mount Olive; Kirby Smith, Saulston, R. F. D. 1; Cleveland Anderson, Goldsboro, R. F. D. 3; Miss Clarissa Odem, Goldsboro; Wm. Smith, Goldsboro; Viola Smith, Goldsboro; Eliza McCuller, Mount Olive; Millard Barnes, Fremont; Nolie Benton, Seven Springs; Mary Lilly Benton, Seven Springs; Ociebell Bunn, Freinont, R. F. D. 2; Lewis Darden, Fremont; David Thompson, Goldsboro; Chas. Barbour, Goldsboro; Child of Fronie Kornegay, Mount Olive; Ruth Best, Goldsboro, R. F. D. 5; Leslie Troublefield, Mount Olive; Minnie Kornegay, Mount Olive; George Anderson, Goldsboro, R. F. D. 2; Paul Johnson, LaGrange; Willie Wilson, Dudley, R. F. D. 2; Thomas Stockton, Goldsboro; Gladis Grady, Mount Olive, R. F. D. 7; Child of Sam Faison, Mount Olive, R. F. D.; William Barfield, Fremont; John Henry Turnage, Goldsboro, R. F. D. 1; Margaret Grady, Goldsboro; Charles Smith, Goldsboro, R. F. D. 4; Eunice Whitley, Dudley, R. F. D. 2; Wm. P. Hill, Kenly, R. F. D. 1; Minnie Howell, Pikesville, R. F. D.; Essie M. Patterson, Popular; J. M. Taylor, Mount Olive; Willie Merritt, Goldsboro; Rissell Sanders, Fremont; Ashton Sanders, Fremont; Two Children of Sam Kelly, Goldsboro, R. F. D. 2; ---- Grady, Goldsboro, R. F. D.; One case at Walter Brown's, Goldsboro; Ollen Pike, Mount Olive, R. F. D. 7; Nursie Carter, Goldsboro, R. F. D. 4; Ed. Pearsall, Jr., Goldsboro; John Bedford, Jr., Pikesville; Mary Pearsall, Mount Olive; Lela Davis, Goldsboro; Lorenza Cain, Faison; Henry Grantham, Pikesville, R. F. D. 2; Child of Ed. Harris, Pikesville, R. F. D. 1; Clelon Grantham, Pikesville; Child of Bud Daniel, Pikesville, R. F. D. 1; John A. Walker, Pikesville; Clara Campbell, Seven Springs; James Mathis, Goldsboro; Jack Langston, Goldsboro; Fannie Kornegay, Goldsboro, R. F. D. 4; Child of Tobe Kornegay, Goldsboro, R. F. D. 4; James Williams, Goldsboro, R. F. D. 2; Ludie Thompson, Goldsboro; Mrs. Martha Love, Mount Olive; Eva Covell Cashwell, Mount Olive, R. F. D.; Marion Keen, Goldsboro; Baby Bordours, Goldsboro; Wendall Taylor, Goldsboro; Fab Watson, Knightdale; Five Children of Richard Sandeford, Knightdale; Nettie Bailey, Raleigh, R. F. D. 2; Placie Bailey, Raleigh, R. F. D. 2; Chester Grant, Oberlin; H. Barbee, Morrisville,

R. F. D. 1; I. Barbee, Morrisville, R. F. D. 1; W. Barbee, Morrisville, R. F. D. 1; Monroe Mims, Apex; Eunice Council, Apex; Emma Burnett, Youngsville; Mary Ellis, Knightdale; Hazel Pool, Raleigh, R. F. D. 4; L. D. Griffin, Knightdale; Mrs. L. D. Griffin, Knightdale; Frank Davis, Cary, R. F. D. 1; Charlie Pallard, Willow Springs, R. F. D. 1; Mrs. Ramae Broadwell, Apex, R. F. D. 2; Monroe Mims, Apex; Louise Dalbey, Willow Springs; W. W. Davis, Walthall; Clyde Williams, Apex, R. F. D. 2; Mrs. Snow Blalock, Willow Springs; King Ray, Holly Springs; Julius Reed, Apex, R. F. D. 2; Mrs. Calvin Humphrey, Apex, R. F. D. 2; Crayton Humphrey, Apex, R. F. D. 2; Mrs. Lonnie Keith, Holly Springs, R. F. D. 1; Joseph King, Cary, R. F. D. 1; Ruth Harward, Morrisville; Jesse Wright, Zebulon; Joseph White, Mackeys; Irene Conklin, Plymouth; John Baum, Creswell, R. F. D. 3; Statha Sawyer, Creswell, R. F. D. 3; James Jordan, Plymouth; Fannie Davis, Mackeys, R. F. D. 1; Lorenzo Sawyer, Creswell, R. F. D. 3; Murrell Sawyer, Creswell; Lizzie Cradle, Plymouth; Solomon McCullough, Jr., Plymouth, R. F. D. 2; Rufus Phelps, Creswell, R. F. D. 1; Virginia Ford, Plymouth; Jessie Bryant, Creswell; Mrs. Hamp Robbins, Blowing Rock; J. T. Coleman, New Castle; Rufus McNeill, North Wilkesboro; Mrs. C. P. Crysel, Wilkesboro, R. F. D. 1; Millard Johnson, Wilkesboro, R. F. D.; Thomas Nunn, North Wilkesboro; Joe Bambil, Wilkesboro, R. F. D. 1; Calvin Eller, N. Wilkesboro; Mrs. Robert Ballard, Hays; Acy Williams, Wilson; Charles Beers, Wilson; Hester Banks, Wilson; Arthur Tugwell, Wilson; Lorenza Barnes, Wilson; Mrs. T. E. Stancil, Wilson; Jack Jones, Wilson; Jessie Montague, Elm City, R. F. D.; Amanda Anderson, Elm City, R. F. D. 3; Aaron Barnes, Stantonburg; Child of Abram Barrum, Fountain; Child of Roseo Ford, Elm City, R. F. D. 2; Ed. Jones, Fremont, R. F. D. 1; Mrs. Walter Farr, Elm City, R. F. D. 4; Gordon McKeel, Saratoga; Child of Rufus Whitley, Walstonburg, R. F. D.; Bertha Tyson, Saratoga; Alonzo Cheek, Cycle; Lura Bohannon, Boonville; Pearl Rivens, Yadkinville, R. F. D. 1; Child of C. H. Todd, Yadkinville, R. F. D. 2; Ralf Coram, Boonville; Resella Sizemore, Boonville; Myrtie Buxton, Hamptontonville; John Bray, Yadkinville; Opal Wolfe, Jonesville; John Brown, Boonville, R. F. D. 2; Drake Reece, Boon-

ville; Child of Jim Wilkins, Boonville; Thomas Adams, Honstonville, R. F. D. 7; Carrie Swaim, Boonville, R. F. D. 1; Child of John Swaim, Boonville, R. F. D. 1; Annie Lee Vanhoy, Cycle; Winnie Ward, East Bend; Child of Luke Myers, Hamptonville; Lawrence Martin, East Bend; Mrs. Ross Wyatt, Micaville; Child of Mrs. Hassie Hall, Celo; Ada Penland, Paint Gap; Dallas Robinson, Burnsville; Neta Young, Burnsville; Mrs. Rex McIntosh, Cane River; Child of John Gillis, Paint Gap; Mrs. Dave Shuford, Celo; Mrs. Cindie McIntosh, Bald Creek.

To these names should be added fifty-four cases occurring in cities as named in which the names of the patients were not reported; Durham 1; Rocky Mount, 5; Winston-Salem, 24; Greensboro, 3; Charlotte, 14; Wilmington, 5; Raleigh, 2.

NEEDED LEGISLATION

It is gratifying to know that Southern legislators and governors are beginning to take increasing interest in the patent medicine evil. Wisely enough does the state say that in order to practice in person, a man must show good character and must attend a medical college for a certain number of years, and must pass a specified examination as proof of his ability. And yet the same state turns right around and allows any man to advertise cure-all patent medicines without proof of character, without college or hospital training and without any examination whatever to show that he knows or cares anything about medical science! There is nothing at all to prevent a negro just off the chain-gang from fixing up a so-called medicine, advertising any sort of claims about it and selling it to ignorant people the same as if it were the product of the most famous medical expert of the century. Here is a good chance for some legislation, and we hope it is coming in all our states.—*Progressive Farmer.*



PUBLIC HEALTH AND SANITATION



SEX HYGIENE AND CHARACTER

THE BIGGEST HEALTH PROBLEM

"The sex instinct, when normally developed, wisely directed and controlled, becomes a source of power, of capacity for achievement, and of inspiration to the noblest of ideals. When misdirected, uncontrolled, and sensualized, it tends to physical decay, intellectual confusion, and spiritual ruin. It is one of the greatest influences determining human character, happiness, and destiny."—M. J. Exner, M.D., Secretary Student Department, International Committee Young Men's Christian Association.

RELATION OF THE SEX GLANDS TO THE DEVELOPMENT OF BODY AND CHARACTER

Experimental Evidence. There were once two colts; these colts had the same sire and their mothers were sisters; at six months of age the colts were exactly alike in size, form and behavior. At this age, one of the colts was castrated, or "altered," that is to say its sex glands were removed. Three years later, the colts which were exactly alike at six months of age, were entirely different both in appearance and behavior.

The horse that was not operated upon held his head erect on a beautifully arched neck, and his eyes flashed an interest in his surroundings; both form and movement expressed alertness, keen perception, and self-respect that bordered on laudable pride.

On gala occasions, he would catch the spirit of the crowd and take part in the festivities, keeping step with the music. He was quick to learn and seemed to take pride in acquiring new tricks that his master taught him. He was courageous; he never ran from a fight; in the pasture he was the acknowledged leader of the herd. He had exceptional endurance; he was de-

termined; his will was strong to do whatever he set himself to do. The horse had individuality; he had character.

The horse that was operated upon, the horse that had grown up without the influence of its sex glands, had no particular pride in his appearance or acquirements. His head was not held so high; he had no beautifully arched neck, no vital spark in his eye, and, comparatively speaking, took little interest in his surroundings. He seemed to lack the self-respect and the self-esteem, in short, the pride of the uncastrated horse. He was not courageous; he always ran from the stallion; he was little interested in learning tricks. At work, he never pulled against the bit, and he lacked the endurance of the other horse; he seemed always willing to adapt himself to the course of least resistance; he could be easily bridled, and a child could handle him. He was what his surroundings and his associates cared to make of him; he was servile; he lacked individuality.

As between the castrated and uncastrated horse, so between the bull and

the steer, there are the same physical and psychic difference. And so again in the rooster: "If these glands are completely removed from a young rooster, he never develops into a fighting cock. He is healthy, big, selfish, soft; will never rush to defend a hen and will not fight, because he is just naturally a poltroon. He has no beauty—fine plumage, comb, graceful bearing; no crow, and only a semblance of spurs." These same physical and psychic differences hold throughout the animal world between the castrated and the uncastrated animal.

The Human Castrate or Eunuch

The removal as a religious rite, or by accident, or by surgical operation for some malignant disease, of the sex glands of the human animal before the age of puberty, that is, the twelfth or thirteenth year, results as follows:

Physically, the usual change in the voice of the boy from the high-pitched treble of boyhood into the clear, ringing tenor of manhood, or from the low alto of boyhood into the deep, sonorous bass of manhood does not occur. There is no growth of hair on the face or other parts of the body; there is a deficient development of the hard, masculine, muscular limb; there is lacking the normal immunity against infectious diseases; there is deficient physical endurance.

Psychically, self-realization (self-respect and self-esteem, personal pride) is absent. Where there is no self-esteem, no personal pride, there can be no courage, neither moral nor physical, for the individual who has no respect for self, no pride, has nothing to defend, and, therefore, the absence of courage, and without courage there is a lack of honesty. The coward lies whenever it is inconvenient or dangerous to be truthful. He has no fixed convictions to enunciate or defend when circumstances necessitate one's taking a positive stand. He drifts; he floats with

public sentiment; he never swims against the current; he has no individuality; he is a part of the herd, and as such moves with it. He has no initiative; he takes conditions as he finds them and, therefore, is not resourceful. With no pride, he has no reason for endurance, for long hours, or strenuous effort. He is a steer-man, docile, servile, without character.

Luther H. Gulick, formerly in charge of physical education of the public schools of New York City, says: "I have no hesitation in saying that castration of the human male has an effect similar to that of castration of animals, that these effects are greater rather than lesser, and that the effects are greatest in the realm of character and spiritual life."

Internal Secretions. There are a number of glands in the body that take substances from the blood circulating through them, and out of these substances make fluids which are re-absorbed by the blood and diffused through the body. These fluids are spoken of as internal secretions. The internal secretions of certain structures like the thyroid gland, the pancreas, the pituitary body, the adrenal, and other glands that produce internal secretions, have very wonderful effects on the nutrition and the development of the body and mind. The effects of these structures may be studied in two ways: (1) By the removal, complete or partial, of the structure and observing the effect of its absence; and (2) by injecting extracts of the structure into animals, as, for example, the injection of thyroid extract into animals and observing its effect. In this way we know that the thyroid gland, if removed or if it becomes diseased and loses its function, stops work, is followed by a condition known as cretinism.

Cretinism is a retardation almost to the point of complete cessation of bodily

and mental development, and the accumulation in the flesh or tissues of the body of a mucus-like material. Most of us have seen cretins, that is, dwarfs, say, twenty years old and upward, who are physically no larger than a child of eight or ten years, but with the features of an old person. Their body is thick and heavy in proportion to its height; their features are stupid; their hair is scant and coarse; their mind is dull. By taking the thyroid glands of sheep and extracting it and injecting this extract into cretins, their entire attitude changes. They become interested in their surroundings, and they begin to learn; their mental dullness gives place to alertness, and if the treatment of the cretin be established early, before cretinism becomes marked, the condition is completely prevented. On the other hand, if thyroid extract is injected in continuous and large doses into a normal person, that person's pulse is enormously quickened, the person becomes very nervous, he has muscular tremors, and the eyes protrude from their sockets, a condition called exophthalmos. And so there is a disease, the opposite of cretinism, in which the thyroid gland overworks, and we have this condition of exophthalmos, sometimes called exophthalmos goiter.

There is another gland known as the pituitary body, lodged at the base of the brain. Disease associated with the destruction of this gland results in an enormous growth of the bones. Post-mortems on giants usually reveal some abnormality of the pituitary body. Another rare condition associated with the disease of the pituitary body has the difficult name of acromegaly, a combination of Greek words meaning enlarged bony prominences. In acromegaly, the features, the jaws, the malar bones and nose are tremendously enlarged, also the hands and the feet. Such a person has to have his gloves and shoes made to order.

The pancreas is composed of two very different structures. One of these structures of the pancreas, if destroyed, is followed by the inability of the body to assimilate or use sugars. The sugar passes right through the body, unutilized, by way of the kidneys. This is the basis of the disease, diabetes.

There is another small structure known as the adrenal gland, which lies just upon top of the kidney and which, if it becomes diseased, is associated with great muscular weakness and the deposit of a brownish pigment in the skin, a rare disease named after its discoverer, Addison's disease.

These examples of internal secretions are cited for the purpose of impressing the reader with the importance of a number of structures of the body that, operating through internal secretions, are powerful in their influence on nutrition and development of both body and mind.

Now, to return to the discussion of the work of the sex glands, we find one of the most potential of the internal secretions to be produced by these glands. The sex gland begins to produce this internal secretion about the age of twelve or fourteen years. It is this internal secretion that causes the development of those physical and psychic characteristics, that differentiate the normal from the castrate.

Sex and the Discipline of Youth.—It is a common experience of parents to become discouraged with the discipline of the child as he passes from childhood into and through the adolescent stage. This is because parents know not of those physiological laws that God has determined shall have jurisdiction with the youth over any orders from the parents. Until the age of twelve, the child, physiologically speaking, has no sex glands (these glands until then are dormant), and he is as docile as the castrated horse or the steer. But after this period, with the

development of the sex glands and with the influence of the internal secretion of these organs on the mind of the youth, he begins to develop an individuality. If he does not, if he is not head-strong, determined, resourceful, as compared with his former existence, then he is not normal, and it is not likely that in later life, when he encounters obstacles, that he will overcome them.

The willfulness of the youth after the twelfth or fourteenth year, when he wanders in the wilderness of temptation trying to find and pursue the path to his own life, is the God-determining, physiological course, and no parent, if the youth is normal and strong in his sex endowments, can block the way. Parents may influence and guide, especially if they sympathetically realize the physiological status of the youth, but parents can never more command. Out of the self-realization of adolescence and out of the knowledge of the tree of good and evil, the individual conscience comes and ascends the throne, and the scepter of power passes from parent to offspring. To break the spirit of the child at this time is to break his soul. Fortunately, God has given most children spirits that parents cannot break.

Castration After Full Physical and Psychic Development. After the sex glands have produced the physical and psychic characteristics of the mature animal, the removal of the sex glands does not cause the loss of the physical and mental effects that these glands have produced. Says Gulick: "The operation does not undo the growth of body, mind, or character that has taken place." This is all important to remember. The work of the sex glands in making a strong body and a strong character is a thing that is accomplished between the twelfth and twenty-seventh years of life. It is, therefore, with respect to this period of life that

an intelligent grasp of the significance of sex is vital.

Functional Castration or Self-abuse. At the same age that the sex gland begins to produce the internal secretion, it begins to form another secretion called the external secretion. The two fluids or secretions are formed by entirely different structures within the gland. The internal secretion is taken up by the blood and circulates through the body, producing its marvelous effects, while the external secretion or fluid accumulates in a system of small tubules or minute ducts within the gland. These tubules become united very much as small streams unite to form a large stream until finally the entire system of tubules are converged into one large duct that opens on the exterior of the body; hence the name, the external secretion.

The accumulation of the external secretion within the tubules of the sex gland causes a certain amount of pressure on the delicate, sensitive nerves in the walls of the tubules. This pressure causes these nerves to carry sexual impulses to the brain. Sexual impulses caused by the accumulation of the external secretion within the tubules is relieved by the discharge of the secretion, and the consequent desire to discharge the secretion underlies the temptation to sexual sin. The discharge of the secretion under any circumstances constitutes, in effect, the sexual act.

The control of this desire or temptation results in the delicate, nervous mechanism's becoming accustomed and adjusted to an ever-increasing extent to the pressure of the accumulated secretion. With this adjustment, the sexual impulse becomes less and less noticeable and the temptation to sexual indulgence becomes easier to resist. The paramount duty of the young person, therefore, is to make a determined fight during the first few months or the first

year or two of the beginning of his active sex life in resisting the impulse to sex indulgence, and in so doing acquire an adjustment or an immunity to this, perhaps, the most heavily punished sin.

If, instead of resisting the temptation to sex sin the person yields to the sexual impulses and the external secretion of the sex gland is discharged and the pressure upon the nervous mechanism relieved, then, instead of acquiring an adjustment or an immunity to this pressure, the nerves become increasingly sensitive to the secretion, the sexual impulse increases in both frequency and intensity, and the resistance to sex indulgence becomes weaker and weaker. THE SEX GLAND, UNDER THESE ABNORMAL CONDITIONS, BEGINS TO DIVERT ITS ENERGY FROM THE FORMATION OF THE INTERNAL SECRETION, WHICH PRODUCES STRENGTH OF BODY AND CHARACTER, TO THE PRODUCTION OF THE EXTERNAL SECRETION WITH CORRESPONDING LOSS OF BODY AND CHARACTER DEVELOPMENT. Thus the tree of life, like the barren fig tree, never produces those finer fruits for which God planted it in the Garden of Eden, but yields its sap to aberrant and fruitless sprouts that spring prematurely from its base.

The sex gland may be compared to a person with two divergent channels of endeavor open to his energy or talents: One channel lies through self-gratification and leads to the selfish, the small, and the evanescent things of life; the other channel lies through self-denial and leads to the unselfish, the larger, and permanent values of life. So with the sex glands. There are two divergent channels through which they may dispose of their energy. If this energy is disposed of in the external secretion, for selfish and evanescent pleasures, then there will be correspondingly less

energy to be diverted into the internal secretion, which goes into the development of body, mind, character—and, some would say, soul. There are some that use 100 per cent of their sex gland endowments in the building of strong bodies and great characters; others use less, some 90 per cent, some 80, some 60, and, alas, some even less. Chastity is the coin with which a man buys character.

Difference in Sex Control Between Lower and Higher Animals. Among the lower animals living in the infranatural realm, that is, under the laws of nature, the male animal is protected against himself, against the premature use of the external secretion of his sex glands. In order for the male animal in the natural state to indulge in the sexual act, he must be fully matured both in bodily strength and courage, so that he may overcome the opposition of the acknowledged male leader of the herd. And thus nature protects (under article one of her constitution, the great law of the survival of the fittest) the lower animal against the premature diversion of the energy of the sex gland into sexual indulgence and away from the development of bodily and mental strength. Examples of what would occur in the animal world if this protecting scheme of nature were interfered with, is seen not infrequently in man's interference with this natural law. If a stock-raiser permits the growing colt, the future stallion, or the young bull to run with the herd and to indulge in sexual acts, the colt or bull becomes stunted and dwarfed physically, and both in appearance and behavior suggests the castrate—the horse or the steer.

But man does not live under natural laws; he lives in the supernatural, for immediately after his creation he was given "dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth,

and over every creeping thing that creepeth upon the earth." Man was put in charge of nature, over nature. The protective checks which hedge about the lower animals, that lack endowments of reasoning and self-control, are not placed about man. He is thrown upon his own responsibility; put upon his honor. He is a free agent. His is the choice to waste his substance or build imperishable character.

Nocturnal Emissions. The following is taken from the book entitled "From Youth Into Manhood," by Winfield S. Hall, a book that every youth should read. It costs 50 cents and is distributed by the Young Men's Christian Association Press of New York City:

"Little has been said about *the seminal vesicles*. These little bladder-like organs possess glandular walls, which secrete a gelatinous albumen, intended by nature as food for the spermatozoa. This albumen is not a vital fluid. It collects in the seminal vesicles until these organs become distended, when nature relieves the pressure within the organs by causing them to empty out. This emptying of the seminal vesicles usually occurs in the night and is for that reason called a 'nocturnal emission.' Healthy young men of seventeen or eighteen, sometimes younger, experience these nocturnal emissions. It is a perfectly natural experience that results in no loss of vitality, only a slight depletion of material, and has on the whole a rather sedative and quieting effect following the stimulation caused by the distention of the vesicle.

"When the young man first begins to experience these emissions, they are likely to come only once in two or three months; a little later they may occur as often as once in a month or six weeks. If they should later come as frequently as once in a week or ten days, nothing is to be thought of the matter unless the young man should experience a very noticeable languor and weakness following it.

"This periodic filling of the seminal vesicles, and the consequent tendency to sexual stimulation, as a result of a distention of the vesicles, gives to the sexual life of the young man a more or less definite ebb and flow or periodicity, as it is technically called. This accounts for the fact that most young men will every two to four weeks experience strong sexual desires and inclinations. It is at just such times that the temptation to self-abuse becomes greatest, and it is just at these times that the young man needs to get a grip on himself and control his inclinations. If he can do so for a few days, Nature will probably come to his relief in a nocturnal emission, and the physical cause of his temptation will be removed for another period of two to four weeks."

The fluid discharged in the nocturnal emission is not the internal secretion produced by the sex gland, and, therefore, does not interfere with the influence of the sex gland on physical and psychic growth.

Remedies. The best remedy for increasing one's resistance to sexual temptation is a prescription written long years ago, a prescription that has never been improved upon and never will be. Saint Paul wrote it. It is a prescription for the sanitation of the mind, and is as follows:

Finally, brethren, whatsoever things are true, whatsoever things are honest, whatsoever things are just, whatsoever things are pure, whatsoever things are lovely, whatsoever things are of good report, if there be any virtue, and if there be any praise, think on these things.—*Philippians 4:8*.

A clean mind, in brief, chastity, is the first line of defense in the protection of the continent life. Once that line is broken, all is in peril. Interesting experiments have been done to show the effect of thought, the effect of the mental attitude, on glandular action. One of these experiments is as follows:

A man is laid upon a table which is delicately balanced upon a pivot; the man is asked to do hard, mental work, say, to work out in his mind some complicated formula or to recite a difficult piece by memory; the end of the table on which the head rests gradually overbalances the other end of the table and this end of the table goes down; if, now, the man is asked to concentrate his thought on running a foot race, the equilibrium of the table is gradually re-established and, finally, the foot of the table sinks. This experiment shows that thought can influence, and does influence to an extent, the distribution of the blood in the body.

Now, to return to the question under consideration. If the mind yields to impure thoughts and considers the sexual impulses, and there is an accumulation of blood or congestion in the sex glands, the result will be a larger formation from the excess blood supply of the external secretion, an increased pressure upon the nerves in the tubular walls, and greater difficulty in resisting the temptation to sexual indulgence; therefore, avoid all acts and situations that tend to excite or augment sexual impulses.

The second line of defense in the protection of the continent life, is healthful exercise. This helps in three ways: In the first place, in exercising, the blood of the body is diverted into those parts of the body undergoing the exercises, namely, the muscles, and this means that relatively less goes to the sex glands, and that there is less external secretion formed, less pressure, and weaker sexual impulses. In the second place, the mind, occupied in recreation and in competitive games, is less susceptible to sex impulses, just as a person listening to beautiful music is less apt to hear the whisperings of the obscene. In the third place, healthful exercises and recreation get rid of the devil's workshop, idleness, a favorable

environment for the accentuation of sex impulses. The exercises, or, so far as that is concerned, interesting work or recreation, keeps the mind engaged with healthful thoughts to the exclusion of unhealthful thoughts, and when the work or play or recreation is laid aside, the natural physical fatigue gives the safety from sin of speedy and sound slumber.

Another thing to be remembered in maintaining the ideal of continence is the avoidance of constipation. Constipation means the accumulation of waste products in the intestines, particularly in the lower bowel. The pressure of the accumulated waste products upon the small blood vessels not only in bowel walls, but in the surrounding organs, including sex glands, causes a congestion or a surplus of blood in these parts with increased activity and, naturally, stronger sexual impulses.

Cost of Incontinence. Go to a typical pool room, one of the eddies off the vital current where the driftwood of society floats in and out; see the average age; note the number of youthful smokers; listen at the language of the place; pick out not the exception in the herd, but the type, and study it. Do you see anything in the features or the form to indicate moral or physical courage, conviction of character, initiative, leadership?

They belong to the gang; belong is the word. Mentally, they have never learned to stand alone; as the gang thinks, they think; the social views of the gang are their views; the gang's political attitude is their political attitude; the gang's religion or irreligion is theirs; they float with the current; they come and go with the thought tides, little noticed, soon forgotten.

After seeing the type, one is in a position to recognize its variations that are encountered all too frequently and in numbers which it is useless to dwell upon.

As we write this section, we have in mind tuberculosis, costing our country 150,000 lives and an invalidism of from 1,000,000 to 2,000,000 people annually; we have in mind pneumonia, with a death rate almost as high as that from tuberculosis and with a sickness rate approximating a total of 750,000 cases of the disease annually; we have in mind cancer, which causes the death of about one-tenth of all women and one-twelfth of all men over forty years of age, causing a total of over 80,000 deaths annually

in this country; we have in mind malaria and hookworm, and all their blighting effects on tropical and subtropical races; we have in mind what we shall speak about in our next Bulletin, venereal diseases, which, according to the Surgeon-General of the army, cause more incapacitation of troops on the western front than wounds received in battle; and with all these in our thought, we give it as our deliberate judgment that the cost of incontinence or improper sex living is the biggest of all health problems.

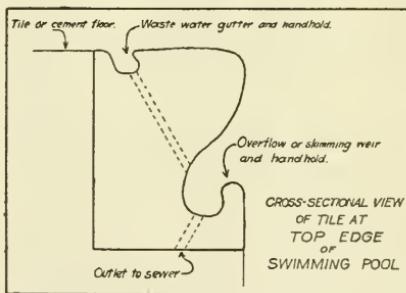
SWIMMING POOL SANITATION

Practical Suggestions for Making and Keeping Swimming Pools Safe and Sanitary

The increasing interest in the matter of adequate swimming pool sanitation suggests the value of a short article along this line at this time.

Proper design and construction of swimming pools and equipment warrant the first important consideration. Pools should be lined with some white, easily cleaned, water-tight material, preferably white enameled tile set in cement mortar. Care should be taken to have no cracks, rough places or sharp or recessed corners or edges. Rounded corners and edges are much easier to keep clean. The depth of the pool should vary from 2 to 3 feet at one end for wading to from 7 to 8 feet or more at the other end for diving. Along the top edge of the pool should be a special tile having two small gutters one on the top surface of the tile to prevent waste water splashed out of the pool from returning and another along the inside face of the tile to serve as an overflow or skimming weir for the pool and to afford bathers a place to spit. The accompanying figure shows a cross-sectional view of such a tile. Both of these gutters will be found to be of great assistance to bathers in affording

handholds to assist in getting in and out of the pool. All drainage and waste from these gutters and the floor around the pool should be into the sewer and not back into the pool.



Only the best quality of rigid substantial apparatus such as spring boards, ropes, rings and other equipment should be provided.

To better insure that bathers will take a shower bath before entering the pool it is well to have the bather's entrance to the pool pass through the shower room. In laying out the arrangement or plan for the shower, locker and pool rooms it is usually advisable to have it so arranged that a single attendant or towel clerk may

have his desk or post so located as to have a general view into all the rooms for purposes of oversight and superintendence. Such an attendant should be familiar with the technique of resuscitation of drowning persons and proper equipment should be available for rescuing and resuscitation.

Ample toilet facilities, urinals and sanitary drinking fountains with pure water should be provided for the convenience and safety of the bathers. Conspicuous notices should be posted in regard to drinking only from the drinking fountain, using the urinals and toilets before taking a shower bath and taking a thorough shower bath before entering the pool. Anti-spitting notices should also be displayed.

Adequate sanitary management and control of the water in the pool, the premises and the bathers themselves are of prime importance. The sanitary quality of the water used in swimming pools should equal that of water used for drinking and general domestic purposes. From a physical viewpoint such water should be free from color, odor, turbidity, and sediment. A soft water is preferable to a hard water but the former is not always available. In general the bacterial count should be less than 100 per cubic centimeter with no colon bacilli present in 10 C. C. quantities.

Where ample water is available fresh water should be added continuously at one end of the pool and withdrawn at the other end. In the interest of economy of water and heat it is usually advisable to recirculate and refilter the water. Recirculation and proper filtration followed by disinfection of the water by means of chloride gas or copper sulphate gives even better results than the addition of fresh water. Very small chlorine outfits such as are now on the market for treating water from the smallest public water supplies will be found suitable for sterilizing the re-filtered water.

Common towels, combs, brushes and drinking cups should be prohibited and towels and bathing suits when used should be of a fast color, lintless and thoroughly laundered and sterilized after using. To sterilize towels and bathing suits in laundering excellent results may be obtained by adding one ounce of calcium hypochlorite (chloride of lime or bleaching powder) to the hot water used for every 30 pounds of dry material laundered.

Diseased and intoxicated persons should be prohibited from using the swimming pool.

Locking the pool room or other adequate steps should be taken to prevent persons from accidentally diving into the pool while emptying, cleaning or refilling.

All plumbing fixtures, traps and closets should be kept in proper working order. Flies and mosquitoes should be screened out and every reasonable effort made to keep the pool and premises well lighted, clean and inviting. By so doing much better coöperation may reasonably be expected on the part of the bathers.

For further suggestions on this subject the reader is referred to Standards for Swimming Pool Legislation by Wallace A. Marsheimer, Ph.D., of New York, in the Medical Record, March 9, 1918, from which much of the above material has been taken and to articles on Public Bathing by H. A. Whittaker of Minneapolis in the Journal-Laucef under dates of February 15 and June, 1918.

If you want to be miserable, think about yourself, about what you want, what you like, what respect people ought to pay you, and what people think of you.—*Charles Kingsley*.

I think that saving a little child
And bringing him to his own,
Is a derned sight better business
Than loafing around the throne.
—*John Hay, "Little Breeches."*

PERSONAL HYGIENE



HOW TO HOLD OLD AGE AT BAY

(An Editorial from *Good Health* for June, 1918.)

It's simple—treat yourself as well as you do your automobile. The body grows old just as an automobile does and for the same causes.

Let two automobiles leave the factory at the same time, finished on the same day. At the end of a year one may be old and worn-out, fit only for the junk-heap, while the other is "good as new." It's altogether a matter of care.

There is one important difference between a man and an automobile. The idle automobile keeps in fine shape, while the idle man rapidly deteriorates. Activity is essential for the preservation of the living machine.

A man who wishes to get the most, the longest service, out of his automobile gives it excellent care. He continually guards it against accidents. He doesn't use it for a battering ram to beat down telephone poles and fence posts. He selects the smoothest road he can find instead of rushing over ditches, plowed fields and stone heaps. He drives slowly over rough places and climbs steep hills on low gear.

Every few months the owner of a worth-while machine has it looked over by an expert who takes care to tighten every loose bolt and screw, to inspect and adjust every automatic device, to clean and oil, in short, to correct every defect. Such an inspection will certainly precede a long touring trip. And, also, the automobile is properly housed

and kept clean. If it gets dirty, it is given a bath at once.

Most important of all, the master of an automobile will take care to feed it properly. Oil adapted to its bearings, and gas of the finest quality. No oil or gas is too fine for a high-priced automobile.

Now that is the way a man should treat himself if he wants to live out all his days, if he desires to hold that grim enemy, old age, at bay as long a time as possible.

To keep an automobile young, one uses it sensibly and cares for it scientifically. To keep a man young as long as possible, it's only necessary that he should live scientifically, biologically. That is, **HE SHOULD LIVE NATURALLY.**

But he doesn't do this. As Seneca, the wise old Roman philosopher said, "Man does not die, he kills himself."

That's the real truth. We destroy ourselves with bad habits, abuses and neglects. The average man lives less than fifty years. If he took as good care of himself as he takes of his automobile (if he has a high priced car) he would live a hundred years at least.

PROTECTING THE HUMAN MACHINE

The statistics obtained from the medical examination of the men in the first draft revealed the fact that more than one-fourth of our male population in the prime of life (21 to 31 years), was physically defective and unfit for military duty. The records of

physical examinations of industrial workers and the vital statistics reports of the population at large show that there is a marked decline in the power of American citizens to withstand the strain of our modern life.

Of course, it is the natural order of things for the human machine to wear out and for life to end. But—Americans are wearing out sooner, now, than they did a few years ago. Why have the chances of early death after reaching the prime of life increased? That this lamentable condition is true is proven by the yearly increasing number of deaths from diseases of the heart, arteries, kidneys, and of the digestive and nervous systems. A study of the Vital Statistics Reports for North Carolina will show that these diseases of old age are increasing among people in middle life and even younger.

The diseases of old age are handicapping the industrial life of America in two ways, both of which have been clearly brought forward by the rapid preparation of the nation to take its part in the great war. These maladies are not acute, but develop very slowly and the person affected may have the disease for many months, or even years, before his body breaks down and he becomes aware of it. But during all this time the individual's working capacity is lowered and he doesn't recognize the cause. This lowered vitality is responsible for many accidents, for damaged machines and inferior goods, and other costly errors. The old age diseases are the concealed enemies of vitality, alertness, accuracy, and efficiency. And, secondly and of equal importance, they shorten the working, productive period of life.

Thousands of American citizens are at present afflicted and handicapped with various diseases in an incipient form. It has been estimated that the mortality from the old age diseases has nearly doubled in the last fifty years.

It is certainly the duty of every true citizen—a duty to himself, his family, and his nation—to visit a physician at regular intervals and undergo a complete physical examination. Only in this way he will be able to know of the approach of any insidious disease and, what is more important, be able to take measures to prevent the disease from developing or arrest its development. In other words, defer death and prolong life.

THE NATURAL LIMIT OF HUMAN LIFE

Students of longevity have collected numerous authentic examples of persons who have lived far beyond the 100-year mark. This fact settles at once the question whether the natural limit is three score years and ten as has been generally held. The Cardinal de Solis, Archbishop of Seville in Spain, was 110 years old when he died. He used to tell his friends, when asked what regimen he observed to enable him to live so long, "By being old when I was young, I am able to be young when I am old. I led a sober, studious, contemplative, but not lazy life."

It would mean a great deal to the nation and more to the individual if each citizen would learn and observe the rules of nature as they affect the way of living. If every one knew how to care for his body and preserve it and how to ward off disease it would be common, instead of rare, for men and women to live to the ripe old age of one hundred years.

But, unfortunately, this important knowledge has not yet been diffused. It is held by a few informed persons but the great mass of people have not taken the time and trouble to learn about personal hygiene and its tenets. The majority is guided by the principle used by the young mother in feeding her infant. The baby was eating a large cucumber pickle when a neighbor, in pro-

test, exclaimed, "The child will kill himself!" "But he has never choked on it yet," the mother replied. "Anything a child can swallow without choking is all right."

REFORMS IN DIET HABITS

The regulations and restrictions of the Food Conservation Committee have done more in a few months to reform the vicious diet habits of the American people and have done more to educate the people as to food values and the value of correct diet than has been accomplished by all the diet reformers put together during the past century. Meatless days have given the people a chance to discover that meat is not necessary to strength and comfort and that a person may feel better and be able to do better work without it. Wheatless days have made it necessary to employ other cereals as substitutes in making bread and our citizens have been quick in learning that bread made from these varied and coarser substitutes have been more easily digested and have, in many instances, been complete cures for chronic constipation. Another lesson of great importance is the necessity for a more liberal use of fresh vegetables in the diet.

A better regulated and more rational diet will exert a great influence for better health and will not unlikely result in a noticeable improvement in health and longevity and a lessened number of cases of sickness and death from Bright's disease, apoplexy, heart troubles, and other old-age diseases.

ORGANIZED WORK TO PROLONG LIFE

One of the most important and far-reaching movements in modern medicine is the organization of specific work to ward off the diseases of old age. This movement has been popularized and given great impetus by the work of the Life Extension Institute of New

York City. "The purpose of the Life Extension Institute embraces the extension of human life, not only as to length, but also, if we may so express it, as to breadth and depth. It endeavors to accomplish this purpose in many ways, but especially through individual hygiene." The aims of the Life Extension Institute and of life extension work are: (1) To provide the individual and the physician with the latest and best conclusions on individual hygiene; (2) to ascertain the exact and special needs of the individual through periodic examinations; (3) to induce all persons who are found to be in need of medical attention to visit their physicians.

It is interesting to note that a Unit of Life Extension Work is being introduced among the activities of the North Carolina State Board of Health. This unit at present forms part of the regular program of work of the nine counties (Davidson, Forsyth, Lenoir, Nash, Northampton, Pitt, Robeson, Rowan and Wilson), coöperating with the Bureau of County Health Work and will later be extended to other counties. The plan of work is to have the county health officer take a thorough course of study and practice in physical diagnosis at the State Sanatorium in order to familiarize himself with the latest and best methods of modern medical diagnosis. The health officer then sets apart one or more days each week for the examination of adult citizens who apply at the health department. This work is already being successfully conducted in Lenoir and Robeson counties and will begin in Davidson and Wilson at an early date.

The purpose of the examination is to detect disease in its early stages, to find minor defects which may impair the citizen and decrease his working capacity, and urge medical attention before the condition may become serious or permanent. The examinations are

made in the county health office, which has a completely equipped laboratory, and includes urine and blood pressure tests. Adults above the age of 20 are examined, but in no case is treatment given. Where medical or surgical attention is thought necessary the patient is referred and chooses his own physician. Twelve to fifteen examinations can be made in one day; and in order to facilitate the work each applicant brings with him a filled history blank. Each person examined is given a written report, with verbal and printed advice, together with suitable literature on health conditions in which he is interested.

The report of the life extension work done in Robeson County is instructive, and is an average of what would be found in any county of the State. During the past six months 700 persons have taken the examination, and 98 per cent of these were found to have physical defects of some degree. At least 40 per cent of those examined were unaware of any impairment, while 20 per cent had been sick for six months or longer without consulting a physician.

One half of the 700 had defects which may be readily remedied by exercise, proper diet and ways of living, and advice as to personal hygiene was given to these. Exactly half of the total number examined were referred to their family physician or specialists for further examination and treatment, while a still larger number were advised to consult a dentist.

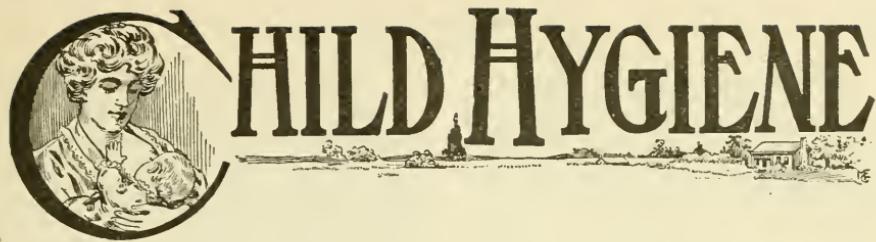
The physical defects found include the following: Faulty eyesight, 48 per cent; faulty hearing, 6 per cent; rupture (unoperated), 4 per cent; overweight, 21 per cent; underweight, 15 per cent. The proportion found to have serious diseased conditions was also large: Organic heart disease was found in 15 per cent of the persons examined, thickened arteries in 23 per cent, high blood pressure in 45 per cent, and tumors were found in 4 per cent. Tu-

berculosis or consumption was found in 38 persons, the majority of whom were not aware that they were victims of this dreaded disease.

Of the minor diseased conditions 94 per cent had some trouble with their teeth and gums, 49 per cent suffered from chronic constipation, and 58 per cent from what is commonly called "indigestion." Ninety per cent of the total examined had regularly committed errors in personal hygiene and 87 per cent errors in diet.

It should be remembered that Robeson county is not an exception but an average county and statistics of industrial examinations and of the examinations of men for the army show that the same conditions exist in all parts of North Carolina. The bright feature of the whole thing is that the citizens of Robeson county have become interested in the prolongation of life and are not only being examined but are following advice and are having their defects remedied. Dr. W. A. McPhaul, Director of the Robeson County Health Department, sums up the value of the life extension work in his county in a very interesting letter, written at the time exactly 500 persons had been examined. He writes: "Think of it, 2,000 years of service have been added to our county. We have examined about 500 people. Some of them will not pay much attention to what we told them, but the majority will, and some of them will live ten to fifteen years longer. Let's strike an average of four years which gives us 2,000 years of service. You just can't figure it in dollars and cents. I expect to examine 1,000 people during the year."

As an instance of just such a thing, Dr. McPhaul tells of the case of a woman on whom a cancer was discovered and later removed. He adds that, "no doubt fifteen to twenty years were added to this woman's life as a result of this discovery."



CHILD HYGIENE

MEDICAL INSPECTION OF SCHOOL CHILDREN

Review of First Year's Work Under State-Wide Law

By G. M. Cooper, M. D.

School inspection was undertaken in the fall of 1917 in the following named counties:

Buncombe, Caldwell, Camden, Catawba, Currituck, Davidson, Davie, Edgecombe, Forsyth, Franklin, Gaston, Guilford, Haywood, Hertford, Lenoir, Macon, Madison, Martin, Mecklenburg, Montgomery, Nash, Northampton, Pasquotank, Robeson, Rowan, Swain, Transylvania, Wake, Warren, Watauga, Wilson and Pitt.

Brief Sketch of Methods

During the summer and fall the director of the Department of Medical Inspection personally attended all the district meetings of the county superintendents of schools in the State except two. He also visited, and personally explained the requirements of the law to the full teachers meetings of twenty of the above named counties; and sent a representative of the State Board of Health to seven of the other counties. This responsibility was assumed and the duty well performed by the County Medical Inspectors in three other counties. Though repeated efforts were made in the remaining two counties, no meeting of the teachers was ever called.

A carefully devised card, got up with the aid of the U. S. Public Health Service, was supplied the teachers for each child. About two hundred and twenty-five thousand were distributed. These cards when filled with the infor-

mation desired by the teachers after making a preliminary examination of each child were placed in the hands of the county medical inspectors, sometimes direct and in some cases through the county superintendent of schools.

Personal Equation

In at least twenty-five counties ninety per cent of the teachers did a practically perfect piece of work; and entered fully into the spirit of the undertaking. In only a few isolated instances did the teachers complain. Some schools received the cards too late for their reports. Of course some teachers made exceptionally good records. Many of them did far more than merely meet the legal requirements, depending altogether upon the teacher's individual conception of service.

County School Superintendents

In every county the move has had the unqualified support and the cordial, sympathetic assistance of the County Superintendent of Schools. It would be impossible to overestimate the good these men are doing in North Carolina.

Board of Examiners and Institute Conductors

Many difficulties in launching this work last year, and in making preparations for the perfection and extension this year, have been overcome much easier through active and sympathetic assistance of the State Board of Examiners and Institute Conductors of the Department of Education. It would be difficult to estimate the good these consecrated men and women are doing for the teachers and children of North Carolina.

Some Results Already Obtained

Notwithstanding the fact that nearly all the activities of the schools, the physicians, and the people generally for the past year has been very properly devoted to the various requirements necessary to help in the war, the success of the medical inspection of school children has been better than anticipated. For one thing, this country like England in the Boer War has realized that to have good soldiers and a strong civil population there must be no neglect of the children of school age and before.

More than three thousand teachers properly filled the cards after a careful preliminary examination of more than 150,000 children; these cards, one for each child, were passed into the hands of a medical inspector in each of the thirty-two counties above mentioned. In most cases the cards passed through the hands of the county superintendent of schools.

Of the above number of children, 34,387, or nearly one-fourth, have been carefully examined by the school physician or a specially trained school nurse of experience. Of the children found defective, 2,689 had been reported treated up to July 1, 1918. This number is for the most part exclusive of dental treatment.

An idea of the thoroughness with which this follow-up work has been undertaken may be had from the following illustrations: One Raleigh specialist has made repeated visits to Louisburg operating on 64 children for the removal of tonsils and adenoids. Some of these children have already made remarkable improvement. In addition to the Franklin county physician, Dr. Malone, Drs. Yarborough, Burt, Perry and other physicians have assisted in getting this excellent work done. Another Franklin county physician, Dr. B. C. Johnson of Bunn, took 18 of his little school patients to the Louisburg clinic.

The next generation will indeed bless the memory of all physicians like Johnson. In Gaston County one child's life was saved through an operation for chronic appendicitis; another seven-year-old child probably had his life saved by treatment for hip joint disease—all through the school work. In Robeson County two children were discovered with incipient tuberculosis; both have been placed in the State Sanatorium. In Mecklenburg County several cases of trachoma, a dangerous eye disease, were discovered solely through the medical inspection service, conducted in Charlotte by Dr. C. C. Hudson and in the county by Dr. McLaughlin.

In Pitt county where the health department was reorganized in January, the schools of only two townships were inspected, but of all children found defective 85 per cent were treated within sixty days. The records show literally hundreds of other cases equally as important as those mentioned.

Free Dental Clinics a Distinctive Feature

An original plan for offering free dental treatment to school children, especially the very young ones, was instituted about the middle of July. The records of thousands of examinations of school children in North Carolina the past five years have shown that at least 75 per cent of them have teeth needing the attention of a dentist. It was also known that less than one per cent of them had ever visited a dentist. Acting in conjunction with the county boards of health in eight counties the Bureau of Medical Inspection of the State Board of Health employed five excellent young dentists for the summer. They were equipped with a portable outfit and set to work in the rural districts of five counties about the middle of July. They do free dental work of a limited class, such as examinations, cleaning, extracting, fillings with amalgam.

gam, etc. They also are teaching oral hygiene as it has never been done in this State before. The first week these young men treated 686 children. One man in Robeson County walked eight miles and carried his ten-year-old boy for treatment. The counties having live health officers and who have arranged for this work jointly with the State Board of Health this year are: Caldwell, Davidson, Forsyth, Lenoir, Nash, Northampton, Robeson and Wilson. Rowan will install a permanent dental infirmary in the courthouse at Salisbury by the opening of schools. So will Lenoir at the high school in Kinston. These infirmaries will be open on certain afternoons each week for free treatment to all the school children of the county. This is made possible as a permanent arrangement through the co-operation of the local dentists of these two cities.

This plan of helping children in need of dental treatment has been carefully worked out and is bound to succeed and be of untold benefit to the people, because it is based on correct principles. The movement has the endorsement of the North Carolina Dental Society which adopted a formal resolution to that effect at the last meeting at Wrightsville. This resolution was introduced by Dr. J. Martin Fleming of Raleigh and was unanimously adopted.

That everybody in the State may have a definite idea of just what this work means to the counties adopting it, the report of Dr. H. L. Keel for the first week in Nash County is herewith appended:

	Total No.
Children treated -----	230
Children's teeth thoroughly cleaned -----	78
Teeth filled with amalgam-----	133
Teeth extracted -----	162
Temporary fillings -----	9
Medical treatments -----	2
Operations -----	2
Children whose teeth need nothing -----	7
Children refused treatment (unmanageable) -----	4
Children fainting -----	1
Conservative estimate of cost if done in private office-----	\$370.50

Dr. West in Northampton County was consulted by 65 little patients in one day during the beginning of the work. The response in Robeson, Davidson and Lenoir has been equally as enthusiastic.

LESSONS OR SUGGESTIONS FOR NEXT YEAR

1. The children in the public schools of North Carolina are literally our "second line of defense" in peace as well as war. To them the State owes a longer school term, better paid teachers, and an even chance to every child. In the language of Hon. J. Y. Joyner, whose powerful assistance in this great work the people should never forget, "the greatest tragedy in this world is a diseased child." To the "Pseudo-Patriots, the Patriots for revenue only," who would relax, or postpone, or hinder this work for the thousands of these little ones in North Carolina this year, the answer must be "*They shall not pass.*"

2. The successful teaching of applied hygiene and sanitation throughout the length and breadth of the State is a job for the teachers of the elementary schools. Hence better training along these lines for all teachers must be had, and hygiene, sanitation, and medical inspection must be made a part of every college and high school curriculum.

3. The medical part of the work in the counties must be assumed by physicians who are capable and who are honestly anxious to help the children.

4. The "follow up" work must be done through organized agencies and in a systematic manner.

5. Free treatment must be provided regardless of class, and the treatment—medical, dental or special—must be done by men whose ability is unquestioned.

6. If our citizens of the future are to be made "Fit to fight or fit to work," no sane person can longer doubt the importance of medical inspection of school children in bringing about this physical fitness. "Where there is no vision the people perish."



EVERY FLY SPECK A CASE OF TYPHOID FEVER

There have been nearly fourteen hundred cases of typhoid in North Carolina from January 1 to August 1 this year. The fly is the greatest distributor of the germs of the disease, conveying them from the open-back privy.



NOTICE TO READER.—When you finish reading this magazine place a one-cent stamp on this notice, hand same to any postal employee and it will be placed in the hands of our soldiers or sailors at the front. NO WRAPPER—NO ADDRESS.

The Health Bulletin

Published by THE NORTH CAROLINA STATE BOARD OF HEALTH

This Bulletin will be sent free to any citizen of the State upon request.

Entered as second-class matter at Postoffice at Raleigh, N. C., under Act of July 16, 1894.
Published monthly at the office of the Secretary of the Board, Raleigh, N. C.

Vol. XXXII

OCTOBER, 1918

No. 4

IN FOUR COFFINS.



Killed in North Carolina, Children under two years old, all causes, 6,077



Killed in North Carolina by Tuberculosis, 2,071



Killed in North Carolina by Typhoid, 172



North Carolinians killed in France 94

Deaths Between Jan. 1, & Aug. 1, 1918.

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A. MCR. CROUCH, M.D., Epidemiologist.
B. E. WASHBURN, M.D., Director of County Health Work.

FREE PUBLIC HEALTH LITERATURE

The State Board of Health has a limited quantity of literature on health subjects for free distribution. If you are interested in one or more of the following subjects, or want same sent to a friend, write to the State Board of Health for free literature on that particular subject.

WHOOPING-COUGH	CLEAN-UP PLACARDS	MALARIA
HOOKWORM DISEASE	SPITTING PLACARDS	SMALLPOX
PUBLIC HEALTH LAWS	SANITARY PRIVIES	ADENOIDS
TUBERCULOSIS LAWS	RESIDENTIAL SEWAGE	MEASLES
TUBERCULOSIS	DISPOSAL PLANTS	GERMAN MEASLES
SCARLET FEVER	EYES	TYPHOID FEVER
INFANTILE PARALYSIS	FLIES	DIPHTHERIA
CARE OF THE BABY	COLDS	PELLAGRA
FLY PLACARDS	TEETH	CONSTIPATION
TYPHOID PLACARDS	CANCER	INDIGESTION
TUBERCULOSIS PLACARDS		

SEX HYGIENE BULLETINS

SET A—FOR YOUNG MEN

A Reasonable Sex Life for Men.
Sexual Hygiene for Young Men.
Vigorous Manhood.
Smash the Line. (The case against the restricted district.)
List of Reliable Pamphlets.

SET B—FOR PUBLIC OFFICIALS AND BUSINESS MEN

Public Health Measures in Relation to Venereal Diseases.
Venereal Diseases—A Sociological Study.
Smash the Line. The case against the restricted district.)
The Need for Sex Education.
A State-wide Program for Sex Education.
List of Reliable Pamphlets.

SET C—FOR BOYS

Vigorous Manhood. (Especially for boys 12 years of age and over.)

NOTE—For boys under 12, see "When and How to Tell the Children" (Set D); portions of "Vigorous Manhood" also may be read to younger boys. Boys 15 years and over may be given Bulletin "A Reasonable Sex Life for Men" (see Set A), at the discretion of the parent.

Sexual Hygiene for Young Men.
List of Reliable Pamphlets.

Any of the above will be sent without charge. Please send for only those bulletins for which you have definite use.

SET D—FOR PARENTS

When and How to Tell the Children.
Venereal Diseases—A Sociologic Study.
The Need for Sex Education.
List of Reliable Pamphlets.

SET E—FOR GIRLS AND YOUNG WOMEN

Your Country Needs You. (Especially for girls 11 years of age and over.)

NOTE.—For girls under 11, see "When and How to Tell the Children" (Set D); portions of "Your Country Needs You" also may be read to younger girls. Girls 15 and over may be given "The Nation's Call to Young Women," at the discretion of the parent.

The Nation's Call to Young Women.
List of Reliable Pamphlets.

SET F—FOR TEACHERS

The School Teacher and Sex Education.
Sex Education in the Home and High School.
Venereal Diseases—A Sociologic Study.
Smash the Line.
The Need for Sex Education.

THE Health Bulletin



PUBLISHED BY THE NORTH CAROLINA STATE BOARD OF HEALTH

Vol. XXXIV

OCTOBER, 1918

No. 4

EDITORIAL

TWO TEACHERS

Reader, Which Would You Prefer for Your Child?

The writer recently explained to a splendid gathering of seventy-five teachers, composing a County Institute, the provisions for the physical examination of all school children in North Carolina at regular intervals. This particular body of teachers was composed of a large per cent of college graduates. The great majority of them were intensely interested and heartily in sympathy with the efforts of the State Board of Health to make this law of great service to all the State's school children. Under the law the teacher is asked to devote about thirty minutes to each child once in three years, in the effort to procure and record some vitally important information concerning the child. This information is to be used specifically in helping any child who needs it. About three thousand teachers cheerfully performed such service last year.

After the talk here is a record of a conversation which took place on the school stairway between the writer and two teachers, a man and a woman teacher.

The Man Teacher

This man is a college graduate and has been teaching many years. He wanted to know if the law compelled him to do this, and if so, "show it to him." He said: "Who pays me for this

work? You are paid, the physician who follows this work is paid, the dentists and specialists are paid."

In other words, this teacher is willing to sit in his chair and ask his pupils once a day how many bones in the human body or the effect of tobacco on the nervous system, but he is unwilling to get up out of his chair to look for an actual condition that may be ruining the child's health for life.

This man is the principal of a State High School, but like a member of the "Nut-Crackers" union, he is only willing to crack one particular kind of nut. He believes in cramming down Latin Grammar, even if the child's throat is so thick with adenoids he has to use an intubation tube to do it. Practical physiology and hygiene mean nothing to him—unless there is to be a financial consideration.

Now, I know the pay of many teachers is pitifully small. Most of them should receive double their present salary and more. But this teacher accepts his contract and should render service accordingly. If he is not satisfied with his wage, the world of opportunity is just as wide open to him as to any of the rest of us. It cannot be love for his work that is holding him; if so his motto would be "Service" and not "Pay."

The Woman Teacher

This woman is a college graduate. She has been teaching several years. She came out to tell the writer (as

hundreds of other good teachers have done) how glad she was to know that the State was taking up this work this year in her county.

She said that last fall, when the county physician insisted on postponing the work of medical inspection until this fall (1918), she was disappointed. She said she was determined to have the inspection done in her school anyway. But after making repeated efforts she failed to get the county physician interested. However, this did not deter her. Instead of complaining of "extra work and no extra pay" she quietly made arrangements with her own family physician to go out and look her school over. She even offered to PAY him out of her own meager salary (less than half the high school principal's). Be it said to the credit of this private physician that he did an excellent job and refused to accept one cent of this woman's money.

This consecrated woman teacher regards the opportunity that medical inspection affords this year as a privilege to better serve her little charges.

All the money in that county would not be enough to increase her salary to what she is worth. G. M. C.

DIET

Dietetics is one of the most important divisions of Personal Hygiene. Every intelligent citizen should know the relation of the various foods to the body needs in order to conserve his health, and every patriotic citizen should learn his own exact needs in order to conserve food for our Army and for our Allies. The questions connected with diet and nutrition are not nearly so complicated as they are usually supposed to be. It is by no means necessary to know about calories and metabolism and such technical subjects in order for a man to feed himself and his family rationally and practically.

There are only three classes of real food: edible vegetables, milk, and meat. Vegetables are primary in character, and all other foods are derived from them. No single vegetable food is complete in itself and consequently, in feeding upon vegetables, one must use a large variety in order to make sure of supplying the various needs of the body. For complete nutrition all of the plant is needed—seeds, leaves, and roots. Taken together these supply starches, proteins, cellulose, salts, and vitamins—all the essentials needed for the human body.

In milk we find these same elements in different form and in a proportion wisely adapted to the needs of a young growing animal. The cow in grazing makes a selection of all the different kinds of plants necessary to furnish the food essentials and serves them up as milk in a form ready for easy digestion. Egg is another naturally prepared food.

Meat is a far more complex food than vegetables or milk and eggs, and is not intended by Nature for food. The flesh of an animal is part of a creature intended to use energy, to conserve food rather than to serve as food—an eater rather than a thing to be eaten. Meat contains concentrated food, but also much that is not food. It contains the poisonous products of animal activity—the ashes of the vital fires which have burned during the life of the animal. These deleterious elements are not found in vegetables, milk, or in eggs.

These three classes of food are capable of constituting a complete and convenient human bill of fare. Meat, however, is not essential since vegetables, milk, and eggs supply all the needs of the body.

In the section on Personal Hygiene an effort is made to give a simple explanation of the main facts of dietetics. If you think it worth while to follow the simple advice contained in the

article you can certainly improve and maintain your health and conserve valuable food. If you do not think it worth your while to do this then send to the State Board of Health for a copy of the last Vital Statistics Report and see for yourself that more than one-half of the deaths in the State occurred in people under 60 years of age, and a large percentage of them because they did not know how to feed their bodies.

B. E. W.

A MODEL CITY SCHOOL SYSTEM

We are publishing below an extract from the report of Prof. Kader R. Curtis, head of the Kinston City Schools. This report was recently made to the school trustees by Professor Curtis.

This report shows the trend of all progressive and common-sense high school officials. Without a doubt Mr. Curtis is a pioneer representative of the type of men who will soon head all the big schools in North Carolina. Pusey, of Durham, Archer of Greensboro, Latham of Winston-Salem, Hardinge of Charlotte, Coon of Wilson, and Underwood of Greenville are others.

Read carefully these two paragraphs of Mr. Curtis' report:

Medical inspection of school children has more than justified the expenditure. A sound mind in an unsound body is impossible. Retardation in school can in most cases be traced to some physical defect. Many defects have been discovered and corrected. They are found to exist among children representing all classes of homes in the city. By constant care and supervision the nurse has been able to prevent to a large extent the spread of contagion in the schools. As a second step in the effort to keep the children well the State Board of Health, with your permission, will equip and maintain a free dental clinic in the Grainger Building. Other avenues of health service will be presented for your consideration from time to time.

Physical training for all the grades will be given a place in the schools this fall. This feature has long been neglected. It is our purpose simply to make a beginning this year. It will be rapidly developed from year to year. Several states make physical training in all the schools compulsory. It is a crime to allow a child to develop one or several of the defects so often found among school children. This work will be under the direction of a teacher who is studying physiology of exercises and corrective exercises at Columbia University. I quote from her letter of August 1: "I am immensely interested in physical education, and am so glad you suggested my taking it. I had a very narrow conception of it before I came here, but now my eyes have been opened and I realize that it is the foundation of all true education. Physical training has the same object in view as medical inspection."

G. M. C.

PRIVY RANGE

Town Privy Has Ten Times Range of Country Privy

The privy is like a dangerous gun. The flies are its bullets. Its range is the fly range, that is, the distance of the average flight of a fly, from 200 to 400 yards. The bullets of the privy never become "spent"; after doing their deadly work, they return to their rendezvous, are recharged with poisonous germs, and sent on another deadly errand. The danger of a privy, like the danger of a gun, is dependent upon its range.

This makes a great difference in the danger of the country privy and the town privy. The *country* privy has a fly range of only one family, as a rule, that is to say, it is within disease reach of from five to seven people. The *town* privy, located in a block, has a fly range of all the people living in the block, say, of eight homes of from five to seven people each; that is to say, it has a fly range of from forty to fifty people. The town privy is, therefore, from eight to ten times more danger-

ous than the country privy. But this is not all or even the worst with respect to the danger of the town privy. Each person living in the block, unlike a person living in the country, is within fly range not of one privy, but of from five to ten. The possibility of a vulnerable or even a fatal shot is to that extent increased. Then there is another, an additional element of danger in town privies. From one to three per cent of all persons who have had typhoid fever continue to carry typhoid germs. These persons are otherwise well; we call them "carriers." According to the laws of probability, the danger of a carrier using a privy within fly range of a home is eight or ten times greater in the city block, with the large number of persons using privies, than it is with the small number of persons using the country privy.

The time has come when the privy is to be outlawed in North Carolina. North Carolina is going to lead in this work of civilization and not follow the other states. Asheville many years ago, and Wilmington, also, got rid of the insanitary privy; Greensboro took this step three years ago; Winston, two years ago. Charlotte will not have an insanitary privy after thirty days. The Capital City of North Carolina, Raleigh, alone among the leading cities of the State, maintains the deadly traditions of the past and permits 1,632 open, dirty, dangerous privies to do their fatal work.

W. S. R.

THE NATURE OF THE SEX PROBLEM

The straight and narrow way is hedged in on both sides: on the one side, by rewards for right decisions, and on the other, by penalties for wrong decisions. Wrong doing receives a double punishment: a negative punishment in a lost reward, and a positive punishment in the imposition of a

penalty. This general principle holds true all along the way, including sex life. The September Bulletin dealt with the negative punishment, the lost reward of strength of body, mind, and spirit resulting from unhygienic sex living. In this, the October Bulletin, will be found a discussion of the positive punishment, the penalties of venereal plagues—gonorrhea and syphilis—which are imposed upon the careless and loose sex life.

It has been said by those of high authority that gonorrhea and syphilis are not crimes, but diseases. This is a short-sighted and superficial viewpoint. Every one knows that in this country 90 to 95 per cent of venereal diseases are caused by the breaking down of moral barriers that society, in accordance with divine and natural laws, has erected and strives to maintain for self-protection.

These moral barriers constitute the first and the most important line of defense against venereal plagues. If this line can be held everywhere intact, not only would those positive rewards of chastity, social strength and character, be secured, but gonorrhea and syphilis would disappear. This first line of defense is largely under the command of those social agencies that concern themselves especially with the morals of society.

Every minister should give this great problem of social hygiene his serious thought, because it is (1) a moral problem, and (2) to any one who will take an hour and read what our September and October Bulletins have to say on the subject it is one of the major problems of life—far transcending in its importance the question of alcoholic prohibition, important enough as that is. The minister or other person who gives this problem the thought that it deserves will find little difficulty in understanding it; his trouble will come when he attempts to present

it to others; here the fool will rush in where angels fear to tread. The subject must be presented to the sexes and to different age groups, separately. Much study has been given to, and much experience is available on methods of presenting the subject of social hygiene to the different groups concerned. The wise man will take advantage of this by writing to the State Board of Health or other qualified agency for references to helpful literature before attempting to lecture on the subject.

Once the moral barrier has given way and the man with gonorrhea or syphilis breaks through, the only protection that society has is the second line of defense—the line of sanitation. Here the moral problem passes over into a physical or health problem, and it is for the health officer to take charge. In taking charge of gonorrhea and syphilis, the health officer has to do with diseases, diseases that are infectious, contagious, hereditary; transmissible, it is true, to the morally loose, but also to the innocent traveler, the unsuspecting companion, to the wife and to the children unto the third and fourth generations. The health officer must deal with gonorrhea and syphilis in the same way that he deals with smallpox, tuberculosis, and typhoid fever.

W. S. R.

SAY YOU, KEEP WELL!

Keep well during the war. Your country needs your very best services now as never before. Sick people are liabilities. We need good strong, healthy assets to win this war. Conserve your country's medical service. The army and navy need every available doctor at this time. Spend your money for thrift stamps and Liberty Loan Bonds. Uncle Sam will take care of all the doctors he can get. Keep well. It is your everlasting patriotic duty.

STRIKE A BALANCE

Do not squander reserve of nervous energy just because you happen to be living in strenuous times and under high mental pressure. Brain fag and nervous exhaustion are not so much a question of what or how much work you do, as it is what you do after work.

Osler advises the cultivation of a hobby. Cabot says, "play." Both are right. The essential thing is to get relaxation that really relaxes, that recreates, that makes you forget the day's cares and tribulations, and wipes the slate clean and gives you a fresh start for tomorrow. That's relaxation, that's the cure for brain fag and nine-tenths of all the cases of "nerves."

But what is "play," what is a "hobby"? That's up to you. You should be your own judge. In general it should be about as far removed from what you do during working hours as possible. If it combines or includes outdoor exercise, fresh air, pleasant company, sunshine, or a good bath, so much the better. A mail carrier would scarcely be interested in or benefited by an evening's walk nor would the student likely find the best recreation in reading a book. Find your recreation and then proceed to redeposit in your bank of nervous energy each day what you check out during working hours. Strike a balance daily. Do not overdraw this account or you may soon find yourself a nervous bankrupt.

Don't worry! To worry about the past is to dig up a grave; let the corpse lie. To worry about the future is to dig your own grave; let the undertaker attend to that. The present is the servant of your will.—Haddock.

IN THE TOILS OF THE LAW

PROSECUTIONS BROUGHT BY THE STATE BOARD OF HEALTH
DURING THE MONTH OF AUGUST, 1918

CAUSE	DEFENDANT	JUDGMENT
Violation of Quarantine Law		
" " "	Dr. N. H. Andrews, Rowland	\$10 and cost.
" " "	Dr. W. P. Exum, Maxton	1c. and cost.
" " "	Dr. D. S. Curtis, Parkton	\$5 and cost.
" " "	Dr. W. F. Stephens, Fairmont	\$5 and cost.
" " "	Dr. G. W. Locklear, Pem- broke -----	1c. and cost.
" " "	Dr. H. H. Hodgin, Maxton	
" " "	Dr. B. F. McMillan, Red Springs -----	
" " "	Dr. R. D. McMillan, Red Springs -----	
" " "	Dr. R. D. McMillan, Red Springs -----	
" " "	Dr. R. B. Wilson, Newton Grove -----	
" " "	Dr. R. B. Wilson, Newton Grove -----	
" " "	Dr. R. F. Quinn, Magnolia	\$10 and cost.
" " "	Dr. R. F. Quinn, Magnolia	\$5 and cost.
" " "	Dr. A. A. Kent, Lenoir	\$5 and cost.
" " "	Dr. Joe Laferers, Lenoir	\$1 and cost.
" " "	Dr. J. F. McKay, Buires Creek -----	\$1 and cost.
" " "	Dr. L. L. Self, Cherryville	Judgment suspend- ed on payment of cost.
" " "	Dr. L. L. Self, Cherryville	\$2 and cost.
" " "	Dr. L. L. Self, Cherryville	\$2 and cost.
" " "	Dr. L. L. Self, Cherryville	\$2 and cost.
" " "	Dr. W. L. Strutt, Maiden	\$2 and cost.
Violation of Vital Stat. law	Dr. R. D. McMillan, Red Springs -----	\$7.50 and cost.
		\$5 and cost.
Total number of indictments for August		22
Total cost of bringing indictments for August		\$320.00
Total collected in fines for August		82.52
Loss to State for prosecutions for August		\$237.48

PHYSICIANS MUST OBEY THE
"HEALTH LAWS OF STATE

State Board of Health Will Bring
Prosecutions Against All Found
Violating Quarantine and
Vital Statistics Law

During August the State Board of
Health caused a total of twenty-two

cases to be brought in local courts
against physicians of the State for
violations of either the State quar-
antine law or the vital statistics law.
Convictions were obtained in twenty-
one of these cases, and fines imposed
ranging as high as \$20. In four cases
judgment was suspended upon payment
of the costs, in two cases fines of one
penny were imposed, and in several

other cases nominal fines were imposed. In several instances more than one charge was brought against the same physician, so that while there were twenty-two cases in all, there were but fifteen individuals brought into court.

The enforcement of the provisions of the State health laws is made a part of the duties of the State Board of Health, and officials of this Board have no intention of shirking the responsibility, unpleasant though it may be. On the other hand the Board has every intention of prosecuting every case discovered where the laws are violated, without regard to whom the guilty individual may happen to be. It is of interest to note that during the past month one of the defendants brought into court and convicted was a former member of the General Assembly of the State.

The cost of bringing these cases again exceeded the amount of the fines imposed, and this condition will continue until local magistrates are awakened to the seriousness of the charges. The total cost of this work for the month was \$320. The total amount collected in fines and turned into the school funds of the respective counties was \$82.52. The net financial loss to the State was \$237.48.

During August the first indictment was brought for a violation of the vital statistics law, which requires the reporting of all births and deaths. The case was against Dr. R. D. McMillan, of Red Springs, who was found guilty of having failed to report a birth, and who was fined \$5.

The importance of prompt reports of the occurrence of communicable diseases was strikingly shown during the month in two instances. From the towns of Magnolia and Cherryville there came requests for special investigations of epidemics of typhoid fever. At Cherryville it was discovered that there were fourteen cases of typhoid

fever, of which only three had been reported to the State Board of Health. At Magnolia twelve cases were found, of which only three had been reported. The physician guilty of failing to comply with the law in each instance was convicted and fined, but the effects of the physician's failure to properly have the first cases quarantined had already allowed the spread of the disease to others, so that in the two towns there were twenty-six cases.

The State Board of Health is hopeful that the physicians of the State will become fully awake to the necessity of fully complying with the health laws, and so making unnecessary this part of the work of the Board. In the meantime, however, inspectors of the Board will continue their work of investigation.

R. B. W.

CONGRESSMEN AND OUR CHILDREN

"If we are sending out men to instruct the people how to raise hogs and how to take care of pigs, are we going any further when we send them out to instruct people how to take care of children and to take care of those questions that arise out of maternity? The babies and the children of this country are somewhat more valuable as an asset than are its pigs and hogs."—Senator William S. Kenyon, of Iowa.

"It is only recently that children have come to be regarded as a national asset, instead of a burden. A healthy, strong, promising child is an asset; a puny, weak, sickly child is a burden to the community, if not to its parents; and anything we can do here to direct the best thought of a nation toward the children's movement will be attention well bestowed."—Senator Henry F. Hollis, of New Hampshire.

"Militarists tell us that the first line of defense of a country is in the navy

and that the second line is in its coast-line fortifications and that its third line of defense is in the army. I deny that. The first line of defense of this or any other country is the children of the country, and if by any appropriation or any amount of money there can be built up in this country a strong, active, fighting race of men and women who are able to take care of themselves, that money, in my judgment, will be well and economically expended." — Congressman Wm. E. Cox, of Indiana.

VENEREAL DISEASE IN GERMAN ARMY

During the past twenty years the frequency of venereal diseases in the German army has shown a steady decline, which continued during the first year of the war. The incidence of syphilis and gonorrhœa in the German army in 1895 was 137 per 1,000, and during the first year of the war it was only 14.4 per 1,000. We have no means of knowing what the venereal disease rate is in the German army at the present time, but it is certain that this reduction has not been maintained since August, 1914. Reports from Germany in the early part of the war indicated that the prevalence was greater in the occupied hostile territory behind the lines than at the front. A celebrated Austrian army surgeon estimated that the incidence of the venereal diseases in the German army during the war is bound to rise to 40 per 1,000 in an army of 7,000,000 men.

SMASH THE LINE

The primary objective of the American men on the western front is to smash the enemy's line, to drive him back, weakened in morale and strategic position, until he is finally beaten.

The chiefs of the allied armies have been forced to rank suppression of

vice and prevention of venereal diseases among the great problems of the war.

Venereal diseases are the "camp-followers" of prostitution and alcohol. They are a triple alliance behind the lines, and as much the foes of an army as the enemies in front.

Prostitution, alcohol and venereal diseases must be beaten, just as the enemy in front must be beaten, or they may cripple, even defeat, an army.

A soldier with syphilis or gonorrhœa, and one with a wound, are both out of the fighting and a drain on an army. But the former is the more serious, for his disability was preventable and in acquiring it he did not register a blow against the enemy in front but literally gave a victory to the enemy behind the lines. Nor does the consequence of his defection end there, for he may become a carrier of disease among his comrades.

During the first year of the war one nation had more men disabled from venereal diseases than from wounds and disabilities incident upon warfare.

A regiment stationed in a training camp sustained greater casualties from venereal diseases than did another (recruited at the time) in one of the bloodiest battles of the war.

The stronghold of this triple alliance for evil is the segregated or red-light district—the so-called "line." Here, prostitution, fortified by official tolerance and supposed medical inspection, is strongest. It is in this segregated district, popular misconception to the contrary, that venereal diseases have their widest opportunity to spread, insidiously as a poison-gas attack, and wreak greatest havoc. A careful study shows that the majority of infections have resulted from commercialized vice, for the medical inspection of prostitutes is inevitably inadequate and futile. It is in the seg-

regated district, too, that alcohol is invaluable as an aid to prostitution.

Remember that this problem of prostitution is a problem of public health as well as of morals; that the venereal diseases, in their malignancy, communicability, prevalence, and after-effects, constitute a more serious menace than any of the well-known diseases, such as typhoid, tuberculosis, or smallpox, all of which the community is fast learning to control.

PATENT MEDICINE RULES

Prof. Wilbert, of the public health service, suggests ten rules for those who want to take proprietary medicines and household remedies. The first five are specifications with which medicines should conform to be acceptable. By acceptable he means this: no man should be willing to take a medicine into his own stomach or to give it to his wife or his child unless it conforms to these five requirements:

1. The label must give accurate and complete information as to the active drugs present and the amount of each in each ounce of the mixture.

2. There must be no claims as to curative action of the mixture unless said claims can be readily and satisfactorily demonstrated.

3. The label must give adequate notice of any untoward effect the drug may have.

4. The medicine must be free from objectionable quantities of alcohol and habit forming drugs.

5. The preparation must not bear a name suggesting curative properties or specificity.

With the first four of these we can all agree. The fifth might as well have been omitted.

He advises no man to use or permit his family to use any medicine against which any one of the following objections can be urged:

1. It is a secret preparation, and

concerning it false and misleading statements are made about its composition.

2. False and misleading claims are made about its curative powers.

3. It is used for illegal purposes.

4. It contains large amounts of alcohol or habit forming drugs.

5. It goes by the name of a cure—for example, "consumption cure."

Men have always taken medicines and always will. Instinctively the beasts seek out medicinal grasses. The men of the Neolithic Age brewed their teas. The savages of today do the same. The twentieth century man takes his herbs, as did the cave man. The only difference is that he insists that his shall be dispensed attractively.

Nine times out of ten he does not need the medicine he takes. A little rest, a little abstinence from food, a little sunlight, a little exercise would be incomparably better for him in most instances.

Sometimes the medicines do him positive harm. Sometimes they do harm by causing him not to seek the medical care he needs. Sometimes they lead to drug habits, including drunkenness.

The best we can possibly hope for is a gradual change in the custom of promiscuous medicine taking. Centuries old customs do not change radically in a day. But, while the change is being worked out, every man should follow these Wilbert rules.—Dr. W. A. Evans.

He spent his health to get his wealth,
And then, with might and main,
He turned around and spent his wealth
To get his health again.

—Buffalo Sanitary Bulletin.

Sickness is what costs. If we would stop as much sickness as possible, the saving would be enough to run the State government.



PUBLIC HEALTH AND SANITATION



THE VENEREAL DISEASES

GENERAL IMPORTANCE

"As a danger to the public health, as a peril to the family, and as a menace to the vitality, health, and physical progress of the race, the venereal diseases are justly regarded as the greatest modern plagues . . ."—M. J. Rosenau, Professor of Preventive Medicine and Hygiene, Harvard University.

As a Military Burden: A Big Problem

A Statement of W. C. Gorgas, Surgeon General of the United States Army: "The army loses more days of service from its men due to venereal diseases than from any other cause. If the medical department of the army had a choice presented to it, say if some man came with a wand, and it was demonstrated that with this wand every wounded man could be gotten back into the line at the end of the second day, with his wound cured; and another course were presented by which all venereal diseases could be eradicated from the army, and our choice were given, permitting us to leave out all sentimental reasons, such as the moral effect upon the community, and allowing us merely to consider the good of the army, and our ability to keep in the line the largest and most efficient fighting force, I think there would be very little hesitation on the part of our department in choosing the eradication of venereal disease. We, in the course of the year, should be able to keep more men in the trenches and have a more efficient force by having eradicated venereal diseases than by eradicating wounds."

Statement from Council of National Defense: "During the twelve weeks

ending December 7, 1917, there were reported from 31 cantonments, 21,742 new cases of venereal disease. The incapacitation of these men involves not only loss of time; in addition, it has cost the Government to keep them during the period of hospital confinement (which varies from one to eight weeks) more money than is required to maintain the entire command at Camp Dix (the cantonment in New Jersey with 20,859 men) plus an additional sum for medical treatment.

"This is not all. Inevitably the disease will relapse in hundreds of these cases, in many instances after the men have been transported to France and presumably put into condition for service at the front, at a cost to the nation of probably \$1,500 for each man."

Statement by representative of office of Surgeon General, United States Army, from page 65 of "Hearings Before the Committee on Military Affairs, United States Senate," on the Army Appropriation Bill, 1919: Over 80,000 cases of venereal diseases have been recorded in the United States Army between September, 1917, and June, 1918. Of these men who came into camp, about 128 per 1,000 were infected with venereal diseases.

The following are the official figures for the armies of the different coun-

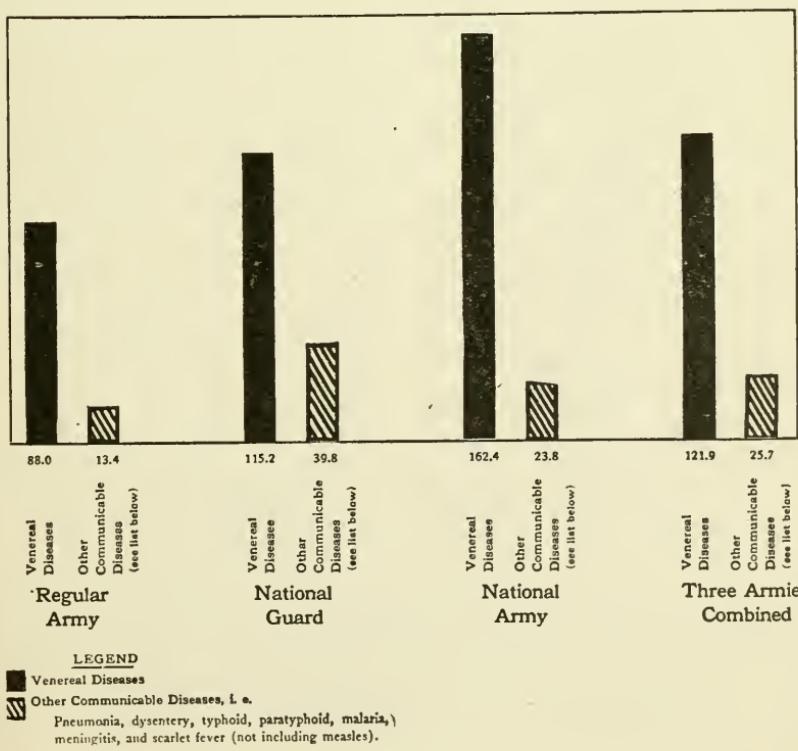
tries appearing in the following tabulation:

Venereal Infection Per Thousand Men—Year Rate		
U. S. Army	1909	196.99
U. S. Navy	1909	159.83
Japanese Navy	1907	139.75
British Navy	1908	122.49
British Army	1908	75.8
Russia	1906	62.7
Austria	1907	54.2
Japanese Army	1907	37.6
France	1906	28.6
Prussian Army	1907	18.7

The following diagram, prepared from reports made to the Surgeon General of the Army and published by the Surgeon General of the Army, shows the prevalence of venereal diseases in the different subdivisions of our army, and in the army as a whole, compared with the prevalence of other communicable diseases. It will be noted that the venereal disease rate is almost five times the rate of the other communicable diseases named:

D I A G R A M
Showing
Prevalence of Venereal Diseases
Compared with other communicable diseases
in the United States Army

Prepared from Reports made to the Surgeon General



As a Civilian Problem: A Bigger Problem

The diagram above referred to furnishes most interesting and convincing evidence as to the civilian prevalence of venereal diseases. For example, the diagram shows that in the army group farthest removed from the people, the Regular Army, there was less venereal disease than in that army group somewhat nearer the civilian population, namely, the National Guard; that there was less venereal disease in the National Guard than in that army group just from the ranks of the people, representing all races, industrial and social classes, the National Army. The evidence of the chart is that the nearer we come to the civilian population, the higher rate of venereal disease encountered. This is in conformity with the evidence presented to the Military Affairs Committee to the effect that 83 1-3 per cent of the venereal diseases in the army were brought in as the drafted men came into camp, and only 16 2-3 per cent were contracted after the men came into the ranks. The evidence indicates that big as the venereal disease problem is from a military standpoint, it is bigger as a civilian problem.

A representative of the United States Public Health Service estimates that there are annually 2,500,000 new cases of venereal disease in the United States—about one person in forty becoming infected each year. The Council of National Defense estimates that there are over 50,000 cases of venereal disease in North Carolina. This figure may be compared with the total number of annual cases of tuberculosis, typhoid, diphtheria, scarlet fever, measles, whooping cough, and meningitis in North Carolina, amounting to about 45,000.

Gonorrhea is responsible for 60 per cent of the surgical operations on women.

Gonorrhea is responsible for 50 per cent of all sterility.

Gonorrhea is responsible for from 25 to 33 per cent of all blindness.

Gonorrhea permanently maims one person in a hundred, and kills one person in every two hundred.

Syphilis as a cause of death ranks with tuberculosis, pneumonia, and cancer.

Syphilis causes from 10 to 20 per cent of all insanity.

Syphilis, assuming that 10 per cent of the insane in the three large State Hospitals in North Carolina are there as a result of this disease, costs North Carolina annually in appropriations for these three hospitals, 1-10 of \$570,000, that is, \$57,000. Of course, this does not include the ravages and losses from syphilis outside of the State insane asylums.

RULES OF HEALTH

The American Commission for combating Tuberculosis in France is circulating among children an excellent set of rules for health, of which the following is a translation:

1. Breathe fresh air at all times. Fresh air and sunlight destroy the germs of contagious disease.
2. Wear light, loose, and porous clothing.
3. Live as much as possible out of doors.
4. Sleep in a well-ventilated room.
5. Practice deep, slow respiration.
6. Avoid eating too much, especially of meat and eggs.
7. Eat a variety of food and chew it thoroughly.
8. Be sure the bowels move regularly.
9. Maintain an erect posture in sitting and walking.
10. Avoid drugs. They contain poisons.
11. Keep the body strong and clean. This will increase resistance to disease.
12. Work with energy, but take proper rest and recreation.
13. Keep a contented mind.

FEAR AND WORRY.

Plague went forth in the land, and one met him, asking him if he could stay his cruel hand. Plague answered that he meant to be merciful; he would only take five thousand from the earth. Some time afterwards these two met again. "So thou art a liar as well as a murderer!" said the other to Plague; "Thy five thousand meant fifty thousand!" "Not so," answered Plague; "I took but my five thousand—Fear and Worry killed the others."—From the Arabic.

CANCER DECALOGUE

1. The Classical Signs of Cancer are the signs of its incurable stages. Do not wait for the classical signs.

2. Early Cancer causes no pain. Its symptoms are not distinctive but should arouse suspicion. Confirm or overthrow this suspicion immediately by a thorough examination and, if necessary, by operation. The advice, "Do not trouble that lump unless it troubles you" has cost countless lives.

3. There is no sharp line between the benign and the malignant cancer. Many benign new growths become malignant and should therefore be removed without delay. All specimens should be examined microscopically to confirm the clinical diagnosis.

4. Precancerous stage. Chronic irritation is a source of cancer. The site and the cause of any chronic irritation should be removed. All erosions, ulcerations, and indurations of a chronic character should be excised. They are likely to become cancer.

5. Early Cancer is usually curable by radical operation. The early operation is the effective one. Do not perform less radical operations on favorable cases than you do on unfavorable ones. The chances for a permanent cure are proportionate to the extent of the first operation. Make wide dissections; incision into cancer tissue in the

wound defeats the object of the operation and leads to certain local recurrence.

6. Late Cancer is incurable though not always unrelievable. Radium, X-rays, ligation, cautery, or palliative operations may change distress to comfort and may even prolong life.

7. Cancer of the Breast. All chronic lumps in the breast should be removed without delay. Benign tumors can be removed without mutilation. Examine all specimens microscopically. An immediate microscopical examination is desirable since, if positive, it permits a radical operation at the same sitting. A radical operation performed ten days after an exploration is almost never successful in curing cancer of the breast.

8. Cancer of the Uterus. Any irregular flowing demands thorough investigation. Offensive or even very slight serous flows are especially suspicious. Curette and examine microscopically. Amputate all eroded cervices which do not yield promptly to treatment. Do not wait for a positive diagnosis.

9. Cancer of the Digestive System is difficult of early diagnosis and therefore unfavorable in prognosis. All persistent and recurring indigestions (more especially if attended by change of color and loss of weight) and any bleeding or offensive discharges demand prompt and thorough investigation. Do not wait for a positive diagnosis.

10. Cancer of the Skin. Any warts, moles or birthmarks which enlarge, change color, or become irritated should be removed promptly. They are likely to become cancer. Do not wait for a positive diagnosis.

Nature exacts to the last farthing in the payment of her debts contracted in violation of her physical laws. Now and again physical bankruptcy is declared, the legal symbol of which is the death certificate.

FRESH AIR REFORMS IN MODERN HOMES

Demands for Fresh Air Sleeping Make Modern Homes Glass Houses.

Fresh air is revolutionizing modern architecture, particularly modern dwelling houses, according to architects and contractors who say that there is a greater demand for open air

sleeping quarters, particularly more and larger windows, than the science of architecture has ever known. If the demand for more windows and larger windows becomes much greater, they declare, modern homes will be little more than glass houses.

That this reform in houses is rapidly coming about is good news to those who have long been styled



MAKING FRESH AIR AVAILABLE

Showing manner in which any home may be easily arranged for out-door sleeping.

"fresh air cranks" but who have kept on cranking till they are about to get somewhere with their propaganda. As a matter of fact, our houses in the past have been chief offenders against

good health, and are directly responsible for much of our ill health. Before we had houses, tuberculosis was unknown. Colds, pneumonia, grippe and bronchitis were rarely heard of. But

since we have become a race of shut-ins, and wedded house-creatures, afraid of and unused to fresh air, tuberculosis has become a veritable scourge with us. Pneumonia ranks second as a cause of death, while grippe and colds make their annual winter raids always leaving our death rate greatly increased.

But houses are not always bad. It is the bad use we make of them. When we overcrowd them or fail to let out the foul, used up air as well as let in the sunshine and fresh air, then it were better from a health point of view that we lived out of doors.

Having fresh air in many of the old-time houses is not always an easy matter. But it is not necessary that a house that has once been built without sufficient windows and the means for admitting air and sunshine should always remain so. The cost of removing the weatherboarding from one or more sides of any ordinary house and placing in two or more windows instead will be little or nothing compared to the benefits to health that will be derived from such a change. The fresh air room shown in the picture, on account of its rows of windows on two sides may be used as an ideal living room, work room or sleeping room. It is light and airy and will be the more desirable for whatever use is made of it summer or winter. As an all year round sleeping room, this arrangement is to be preferred to the ordinary sleeping porch. It can be made comfortable for any kind of weather, whereas the sleeping porch is usually abandoned in cold winter weather at the time it is needed most to keep up health and efficiency.

The sleeping porch, however, has lost none of its virtues. Every home should have one and the weaker members of the family should use it summer and winter. Open air sleeping long ago proved its value as a cure for many diseases, particularly dis-

eases of the nose, throat, and lungs, and now it is known to be even more valuable as a preventive of these conditions.

The reason that open air sleeping is not more popular is because people do not prepare for it, especially in winter. Therefore, they don't enjoy it. They get cold feet about the first effort they make and then they abandon it for more comfortable quarters. The same thing is true about sleeping in a cold room with the windows open.

The main secret about open air sleeping is going to bed warm. Of course you must have a thick comfortable bed with plenty of light warm covers, preferably woolen blankets, and your night clothes must be thick and warm. The teddy bear style, a one piece garment that covers the feet, and can be made to cover the head and ears, is probably the best suited for out door sleeping. If necessary, eiderdown foot warmers should be worn. Further essentials are a heavy bath robe and warm slippers that will enable you to go to and from your warm dressing room without chilling.

Those who have really known the benefits of outdoor sleeping, and have enjoyed it because they were prepared for it, will never again be satisfied to breathe stale, indoor air while they sleep. They recognize at once the difference it makes in their mental as well as their physical feeling. Fresh air, aside from its value in curing and preventing respiratory diseases, is one of the best antidotes for mental sluggishness, physical bad feeling, and general inefficiency. Everybody should examine his sleeping quarters with reference to fresh air, and if he is not getting his share, he should make different arrangements. If it is his own home, he can put in more windows or build a sleeping porch, if it is not, he can secure a room elsewhere with two or more windows.

HOW TO RECOGNIZE CONTAGIONS

Whooping Cough

Begins like cold in the head, with bronchitis and sore throat, and a cough which is worse at night. Symptoms may at first be very mild. Characteristic "whooping" cough develops in about a fortnight, and the spasm of coughing often ends with vomiting.

Measles

Begins like cold in the head, with feverishness, running nose, inflamed and watery eyes, and sneezing; small groups of mulberry-tinted spots appear about the third day; rash first seen on forehead and face. The rash varies with heat; may almost disappear if the air is cold, and come out again with warmth.

Scarlet Fever

The onset is usually sudden, with headache, languor, feverishness, sore throat, and often vomiting. Usually within twenty-four hours the rash appears and is finely spotted, evenly diffused, and bright red. The rash is seen first on the neck and upper part of chest, and lasts three to ten days, when it fades and the skin peels in scales, flakes, or even large pieces. The tongue becomes whitish, with bright red spots. The eyes are not watery or congested.

Diphtheria

Onset insidious, may be rapid or gradual. Typically sore throat, great weakness and swelling of kernels in the neck, about the angle of the jaw. The back of the throat, tonsils, or palate may show patches like pieces of grayish-white kid. The most pronounced symptoms are great debility and lassitude, and there may be little else noticeable. There may be hardly any symptoms at all.

Smallpox

The illness is usually well marked and the onset rather sudden with feverishness, severe backache, and sickness. About third day a red rash of shotlike pimples, felt below the skin, and seen first about the face and wrists; spots develop in two days later, then form little blisters and after two days more become yellowish and filled with matter. Scabs then form which fall off about the fourteenth day.

WATER-TIGHT WELL TOPS

How One Bad Well Top Caused Twenty Typhoid Cases

Twenty cases of typhoid fever were recently reported from a hamlet of eighteen houses. Upon official investigation it was found that every case was traceable to one poorly constructed well top. It appears that the owner in endeavoring to conserve water had left a small hole or overflow open so that any excess water instead of being carried away by a waste pipe was allowed to run back into the well. A man who had been infected with typhoid elsewhere was cared for on the same premises with this well. The conclusion reached by the investigators was that utensils used by this man had been rinsed at this well and some of the waste water contaminated by typhoid germs had polluted the water which was later used by the other victims.

The State Board of Health unhesitatingly recommends the use of watertight well tops, preferably cement tops provided with a good iron pump. To this should be added a good watertight trough with a drain to remove all waste water from the vicinity of the top of the well.

The old fogy idea that an iron pump may in some way injure the quality of the water is about as reasonable as to suppose that cups and glasses, plates, knives and forks in some way injuriously affect our food and drink. If an iron pipe could in any way seriously affect the quality of water what would become of the millions of city people who get their water only after it has been pumped through miles and miles of iron pipes? If it is really a question of iron, we have known of several concerns who have made fortunes selling so-called "iron" tonics to credulous individuals for fancy prices. The facts are that iron pumps in no way injure the quality of well water but on the other hand by eliminating the old bucket and rope or chain and the open well tops, they keep the water free from pollution from dirty hands to say nothing of the dust, dirt, and bugs. By all means use a water-tight well top, a good pump and make sure that the waste water is piped away and that surface rain water drains away from rather than towards the well.

MOUTH SHOWS CHARACTER

Mouth Breathers Dangerous to Themselves and Others

Do you want to be considered an idiot, or a mentally deficient person? Idiots and mentally defectives generally let their chins drop, and they breathe through their mouths. Men of marked character keep their mouths shut except when they have something worth while to say, or when they are eating.

The mouth breather generally gets enlarged tonsils. The tonsils catch and hold the germs which would normally be caught in the front of the nose and then thrown out at the next breath. The nose of the mouth

breather becomes a garden in which many bacteria may thrive. The mouth breather's blood is not normally pure, and his mental operations are often clouded thereby. He is more than likely to be somewhat hard of hearing. This intensifies his mental backwardness. Germs caught on the tonsil are more likely to poison the system than those caught in the front of the nose, and the mouth breather is therefore more liable to sickness.

But mouth breathing is not only harmful for the breather, but he becomes a great menace in the community. Mouth breathers have a habit of blowing when they talk, and often they puff with slight exertion. In thus blowing or puffing they throw out droplets of moisture laden with bacteria. Nature gave man a nose the openings of which point downward. Unless in the act of sneezing any bacteria coming from the nose are driven towards the floor, but bacteria coming out of the mouth of a mouth breather are thrown out into a stratum of air which others breathe.

SHUT YOUR MOUTH!

A good bath is the best kind of a "night cap."

"Adam's ale," the pure, unadulterated kind, is the best drink.

Many people are sick because they are unacquainted with the personal touch of a toothbrush.

Tonsils are very important in considering the source of rheumatism, heart or kidney disease.

If you want "pep," keep your system "hitting on all cylinders."

If you need a doctor, select one in whom you have confidence and then follow his advice.

Good health is 100 per cent. efficiency—not merely absence of sickness.

It's the songs you sing and the smiles you wear, that's a-making the sunshine everywhere.

PERSONAL HYGIENE



DIETETICS

I. Kinds of Food

The human body has been well described as an engine, and it needs fuel just as an engine needs fuel. An engine works best when it has the right kind and amount of fuel, and the same thing is true of the human body. Again, an engine has to be built and repaired and oiled and regulated, and again the same thing is true of the body.

The body needs three kinds of food: Fuel food, building or repair food, and regulating food.

Fuel Foods

The fuel foods are the foundation foods of the diet, the foods that supply energy for the muscular work. There are three groups of fuel foods:

1. Starchy Foods	2. Sugars	3. Fats
Cornmeal	Sugar	Lard
Hominy	Corn syrup	Pork
Oatmeal	Candy	Bacon
Flour	Molasses	Butter
Rice	Fruits	Cream
Macaroni		Peanut butter
Dried Lima beans		
Split Peas		
Bread		
Potatoes		

Fats, starchy foods, and sugars are almost pure fuel. At least 80 per cent of the food should come from this group, using starchy foods in largest amounts, fats next, and sugars least.

Building and Repair Foods

The body is in constant need of food for repairing or rebuilding worn parts. Building foods, generally speaking, fall into two groups, called proteins and mineral salts.

Protein, the chief building food, is represented in the diet by lean meat of

all sorts, including fish and fowls, milk, cheese, dried peas and beans, and nuts. Protein is also found in cereals and bread. Eggs and flesh foods need to be limited in quantity because too much of them make trouble for the human machine, leaving undigested wastes in the body. The following is a list of the more important protein foods:

Beans (dried white).	Milk.
Oatmeal.	Beef.
Fish.	Almonds.
Mutton.	Peanuts.
Eggs.	Bread.
Dried peas.	Cheese.
Cornmeal.	Lamb.
	Fowls.

The protein or repair foods should be eaten once a day. The rest of the repair material needed will be found in sufficient quantity in the balance of the diet. Muscular labor, which increases the need for fuel, does not materially increase the need for proteins. It is a bad mistake to think that eating meat gives special strength for work. Starchy foods, fat, and sugar are the great sources of working force.

The second group of building material includes a variety of minerals which help make bones and other body parts. They are found chiefly in milk, cereal foods, fruits, and vegetables. Of such minerals, lime, iron, and phosphorus are especially needed to keep the body in a healthy condition. These are found in milk, green vegetables, and cereals made from whole grains (as oatmeal and flaked wheat).

Regulating Foods

Mineral salts, as stated above, are building foods. They also help to keep the body machinery running properly.

Water is the most important regulating food. Most people do not drink enough of it. A glass should be taken on arising, one before each meal, and another on going to bed. Water at meals is beneficial except for persons who are too fat.

Bulky foods are also needed, as a diet containing no vegetable fibers is insufficient except for babies. This bulky food counteracts constipation and gives adequate work to teeth, jaws, stomach, and bowels. Examples of bulky foods are vegetables, as lettuce, turnips, celery, cabbage, tomatoes, and onions; fruits, as apples, pears, prunes, dates, and figs.

Vitamins are minute substances present in very small quantities in a number of foods and apparently absolutely necessary to bodily growth and health. They are not found in all kinds of food material, which makes it necessary to have a diet of variety. Milk, eggs, whole wheat, corn, oatmeal, potatoes, and oranges are some of the foods known to contain them. Cooking reduces the amount of vitamins in most foods, hence it is well to eat some raw food and fresh fruit daily.

II. Feeding the Human Body

A worker in an office doing no hard labor requires only about half the fuel necessary for a very hard-working man. A farmer needs about one-third more fuel than the average clerk, while the average woman needs about one-third less food than the average man who has more muscular tissue and is more active. Children burn fuel quickly. A girl of fourteen to seventeen will need as much or more than a full-grown woman, and a boy of the same age will need more than a full-grown business man. People vary in their fuel needs

just as different types of engines vary in the amount of gasoline they need.

The following are good practical rules by which a person may feed himself without weighing his food. Weigh yourself twice a month. If you are above the average weight you need less fuel. If you are below the average weight, and losing weight, you need more fuel. Have you some bulky food, some raw food, some whole cereal, some fruit, and some milk in your diet each day. Eat protein foods (meat, fish, and eggs) only once a day, and then in moderate amounts. Have a meatless day each week.

Get the right kind of food, have it prepared correctly, and then chew it well. Many foods (bread, potatoes) are partly digested in the mouth, and all foods are prepared in the mouth for stomach and bowel digestion. Therefore, again, chew your food thoroughly. Eating keeps you alive, and it is worth doing well.

III. Special Advice

If you are overweight, you are carrying an unnecessary burden that may break down your health. Eat less fats, starchy foods, and sugars. Eat more fruit and vegetables. Exercise daily.

If you are underweight, eat freely of all the foods. Do deep breathing and setting-up exercises. Eat more fresh fruit, vegetables, and eggs.

If you are constipated, eat freely of whole cereals, bran bread, lemon and orange juice, cabbage and other bulky vegetables. Avoid mineral water, pills, and laxatives. Exercise, drink water freely, and have regular times for bowel movement.

If you do light indoor work, eat lightly of starches, fats, and sugars, and try and get plenty of fruit, green vegetables, and milk.

If you do heavy work, eat freely. Watch your weight. Eat enough to keep your weight at the average for thirty

years. Eat less bread and butter, sugar, sweets, and cereals if you find that you are getting fat. Potatoes do not matter.

Lightweight is not a disadvantage if one is otherwise in good health.

Overweight is always a disadvantage, and should be avoided, especially by those approaching middle life.

NOTE.—The main facts in the above article were taken from the little book entitled "Food—What to Buy, How to Cook It, How to Eat It," by Eugene Lyman Fiske of the Life Extension Institute. The book is recommended to all who want to learn more about the important subjects of food and dietetics.

FIRST AID MEDICINE

In the August issue of the BULLETIN a list of First Aid Materials for the home medicine cabinet was given. The following descriptions of these materials should be of value, especially to the housewife:

Alcohol.—Useful externally for sprains, strains, and bruises. Will take the place of any liniment for this purpose.

Aromatic Spirits of Ammonia.—A stimulant in fainting, shock, or any condition of weakness or depression. Dose, one-half teaspoonful in half glass of water.

Castor Oil.—A mild purge. Dose, one-half teaspoonful to one teaspoonful for an infant, one to two teaspoonfuls for a child.

Seidlitz Powder.—Mild purge for constipation, sick stomach, or bilious headache.

Mustard Powders.—Teaspoonful in a glass of luke-warm water to cause vomiting.

Syrup of Ginger.—For cramp in the stomach and diarrhea with cramps. Dose, one-third teaspoonful in glass of water.

Syrup of Ipecac.—Especially used in croup to make children vomit. Dose, one teaspoonful.

Bismuth.—Four tablets powdered afford a safe remedy in diarrhea.

Carbolated Vaseline.—Used externally for burns.

Boracic Acid.—Dissolve as much as possible in water. This solution is an excellent eye-wash.

Soda Mint.—Use in case of gas on the stomach or stomach burn.

Oil of Cloves.—For toothache. Put a drop on cotton and place in the cavity.

Talcum Powder.—For all inflammations and irritations of the skin.

Antiseptic Gauze.—To cover wounds.

Gauze Bandages.—To hold wound dressings, splints, etc., in place.

Red Cross First Aid Outfit.—A handy dressing for wounds. Full directions are found on the container.

Collodion.—Paint on cuts and slight injuries to the skin.

Corn Plasters.—To prevent rubbing of tender corns.

General Directions

Certain general rules should be followed when you have to take care of any one who has been taken sick or who has met with an accident. The following rules are important:

Don't get excited and don't get hurried. Great haste is rarely necessary.

Keep people away. A patient needs all the fresh air he can get.

Loosen any tight clothing.

Always put a sick or injured person in a lying-down position with the head not raised, unless the face is very flushed, when a small pillow should be put under the head.

Don't be in too much of a hurry to get the patient into bed. Always be sure that before doing so you are not going to do further injury.

IMPORTANT.—Unless you are sure that what you are doing is not beyond your power, send for a doctor at once. In doubt, send for a doctor anyway.

EXERCISE

Four years ago, two business men, both past fifty years of age, visited a specialist because of the fact that slight exercise brought on "palpitation of the heart."

On inquiry and examination the following facts were developed: Both men were hearty eaters, rode to and from their business, drank "moderately" of alcoholics, used tobacco to excess and omitted everything in the way of exercise.

Both had increased blood pressure, transient attacks of dizziness and marked irregularity of heart action after slight effort, such as walking briskly for several blocks.

Practically the same advice was given in each case. One man followed the advice, the other did not. The one who did not is occupying permanently "six of earth" in a beautiful suburban cemetery. Judging by his ancestry he died from twenty-five to thirty years before his time.

The other sold his auto, reduced his allowance of food and tobacco and secured a permanent separation from the demon rum. He took up a form of exercise that necessitated long, continuous excursions in the open air, and sunshine. It wasn't easy work and entailed considerable suffering at first, for his muscles were soft and flabby and sore spots developed so fast that it was difficult to keep up with them. At the end of the fourth year he can walk by the hour, doesn't know that he has got a heart, has lost twenty-eight pounds and is thinking seriously of applying for a commission in the officers' reserve corps of the army. Of course, one swallow doesn't make a summer. The other man might have died just the same, even if he had followed the doctor's advice, but it is worth noting that the one who did is still on earth and promises to live out his "three-score years and ten."—Cincinnati Sanitary Bulletin.

CARE OF THE EYES

The following excellent suggestions on the care of the eyes have been issued by the Illinois Society for the Prevention of Blindness. They are well worth reading and remembering:

Take as good care of your eyes as you would of your watch. You can buy a new watch, but you can't buy new eyes.

Wear glasses if the doctor advises you to do so.

Don't use your eyes in a poor or flickering light.

Have the light shine on your work or book—not in your eyes.

Hold your work or book 14 or 15 inches from your eyes.

Don't rub your eyes with dirty hands.

Don't use other people's towels, wash cloths, handkerchiefs, etc.

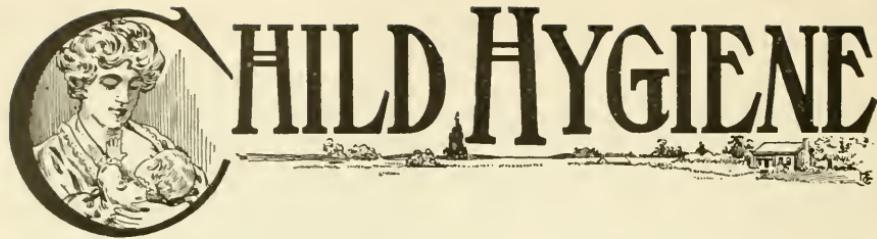
Have sore eyes and granulated lids treated promptly, and as long as the doctor thinks necessary.

If you suspect eye trouble, see an oculist at once.

Don't let any one but an oculist examine your eyes.

A man with a bad tooth or a callus on his foot is not wanted in the army. Minor ills, endured or ignored by the civilian who has no time to waste on petty things, are matters of concern in the army. Neglected teeth and feet seem like small impediments to the development of the full power of a man, yet either of them may slow up greatly the operations of an army.

Insanitary and neglected conditions of rural schoolhouses is credited with the failure of 75 per cent of the men who have been rejected from the army upon medical examination, according to Dr. J. A. Nydegger, of Baltimore.



FREE DENTAL CLINICS

Review of First Seven Weeks Free Dental Clinics for School Children

This summary covers results obtained in the first seven weeks of dental work ending Saturday, August 31, 1918. The work has naturally been superficial in some particulars, experimental to some extent, largely educational, and in part in the nature of a survey. But the quality of work done for the children has been of the best. The specific object intended has been achieved; and that is finding a system of follow-up work after medical inspection which is practical and within reach of every county. Instead of simply notifying the parent of a child now when a physical defect needing treatment is found, and recommending treatment, something specific is done for the child; therefore removing the only criticism that has ever stood against medical inspection of school children.

This summary does not include the report from Guilford County, as we have only half the record to date from there; but a review of the work there will be included later.

To August 31st the dentists had held open dispensaries at one hundred and forty-six places. Three thousand seven hundred and sixty-three children had been treated. A conservative estimate of the cost of this work, had it been done in private offices, would be more than \$6,500. A majority of the children treated had never seen a dentist before. Many of them would have been unable to pay anything for the work.

All the reports show that at least seventy-five per cent of all the children examined, over seven years of age, had permanent teeth decayed.

In only two localities in one county, and a few in one other county, have the people failed to take full advantage of the opportunity. The accompanying cut indicates the kind of interest aroused among all classes.

A druggist in one town states that he has sold more toothbrushes during this seven-week period than he had in the previous twenty-five years combined. A private dentist in a town in an adjoining county to one of the counties worked, states that he had treated just twenty-five children within two weeks after the work closed. The children had been examined in the clinics, and as preference is given the smaller children, the dentist not having time to do all necessary treatment for all, their parents had taken them to the dentist in question and had the necessary work completed. Many other reports are equally as good.

The counties completing the work are Northampton, Nash and Lenoir. As this is written (September 2) work is continuing in Guilford, Caldwell, Davidson (two dentists at work there), Forsyth and Robeson. The Wilson work will start September 23d.

The equipment has already been purchased and is at hand ready to open a permanent clinic at Kinston and at Salisbury.

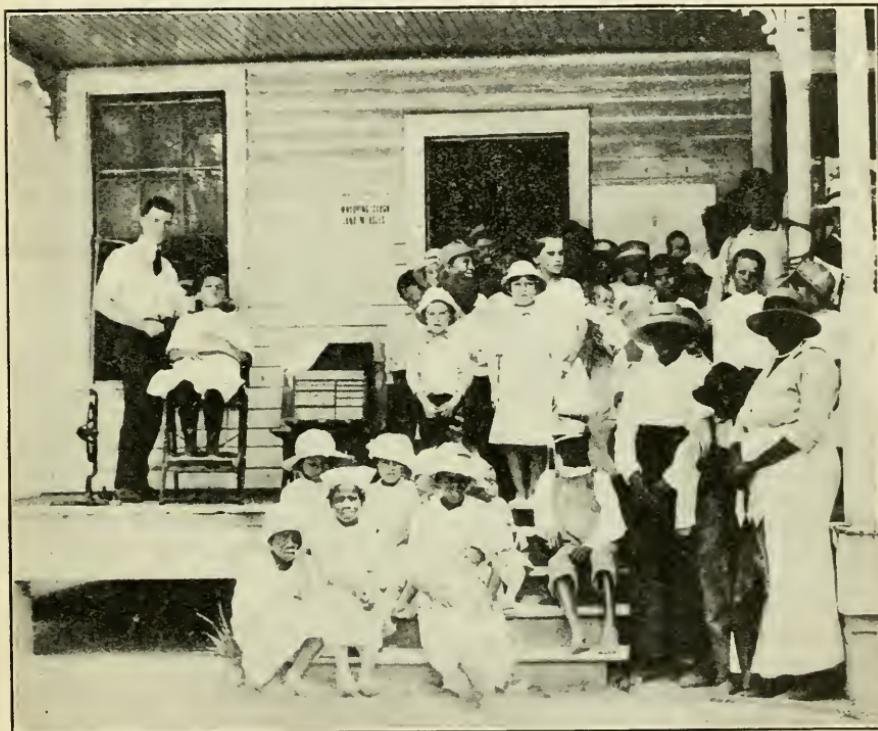
A fuller review will be given in the November BULLETIN.

ADENOID CLUBS

We have in North Carolina "pig clubs," "corn clubs," "canning clubs," "book clubs," "women's clubs," "country clubs," "city clubs," "hunting clubs," "political clubs," "union clubs," and clubs for the wise men and the dubs. But few know of the existence of a club which has been organized

from necessity, and which has already proved its usefulness on numbers of occasions since first tried in 1914. This we term "The Adenoid Club."

In the medical inspection of school children, there are discovered in every school a number of children with diseased tonsils, excessive adenoid growth, defective vision, and ear diseases. To



FREE DENTAL DISPENSARY

One of the many held in Lenoir County during July, 1918.

simply notify the parents of these children that the condition exists and recommend treatment proved woefully inadequate. A few of the parents always acted on the advice, but the majority did nothing, to the subsequent cost of the child's health. Many of the parents do nothing because they are financially unable. Many fear a trip away from home to a strange office or

hospital. Some don't have anything done because their neighbors do not.

An operation by a first-class throat specialist costs from \$25 to \$35 generally, besides often hospital or other extras are demanded. We have found that the services of a first-class operator can be secured for a day's operations for \$100. For that amount he furnishes his own equipment, which in-

cludes the most modern operating instruments, such as the electrical vacuum apparatus, and a trained nurse, etc. He also pays his own expenses and that of the nurse in getting to and from the meeting place of the club—the place where the children needing operations assemble. He can operate on about fifteen children in one day. For about \$50 the services of an extra trained nurse may be secured for the day, also two local physicians, who assist the operator in giving the anesthetic and help look after the little ones until they "come round" properly; and provides for a few rooms with cots, etc., at a local hotel or some place for the children to use until able to start home.

We find that on an average, the parents of at least twelve of the fifteen children are amply able and willing to pay \$12.50 each for the operation, which saves them from 25 per cent to 75 per cent on the operation and the expense of a trip, in most cases, of many miles away from home. Thus allowance is made for at least three children in every club whose parents are poor in this world's goods to have the advantage of a good operation free of charge.

From the standpoint of the specialist the plan is strictly ethical and works well. The more children that are treated and therefore have the fear of a simple operation removed from the minds of their immediate family and their neighbors, the more common will this great preventive procedure become.

To September 1, 1918, the most remarkable results have been obtained in Hertford and Franklin counties.

We will be glad to communicate with any one desiring to organize one of these clubs. There are no by-laws or initiation fees and but one meeting. A second meeting is never necessary. The only danger is delay—delay until the affected child is too old to be benefited materially from the operation.

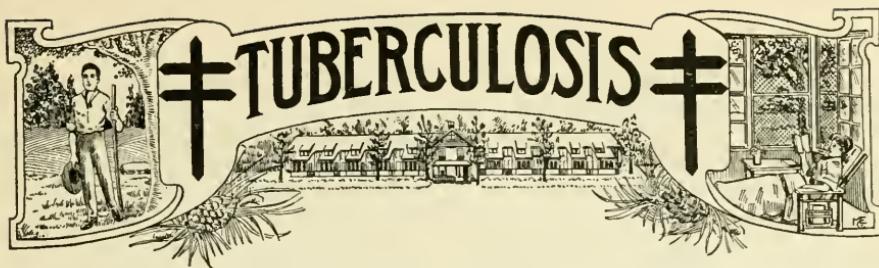
When diseased tonsils and adenoids are removed in time by a capable operator the result is always a one hundred per cent improvement. One condition is required, and that is a medical inspection of schools, the first step of which is done by the teacher, and shall have taken place in your school district, conducted in compliance with the State-wide law. This was done in thirty-two counties last year, and will be completed in as many more this year.

For full particulars address the Bureau of Medical Inspection of Schools, North Carolina State Board of Health, Raleigh.

G. M. C.

When will parents learn that there is a cure for diphtheria, if only it is taken in time? How can it be brought home to them that delay is dangerous; that the doctor's services cost far less than do those of the undertaker, to say nothing of the saving in grief, sorrow and heartache? Then by all means when your child complains of having a sore throat, call your doctor and insist upon having antitoxin administered at once. It can do no harm if the child has not diphtheria; but it will save its life if it has.

Tuberculosis is contagious. One person who is sick with it may give it to all the other members of the family. It can be cured, if taken in time; but that time is very early. Don't wait till you are sick in bed, or spit blood—it will be too late then. If you always feel tired, if you are under weight for your height, if you have a cough all the time, or get colds one right after the other, go to the nearest tuberculosis dispensary and get examined. It will cost you nothing and it may save your life.



TUBERCULOUS SOLDIERS AND REGISTRANTS TO BE ASSISTED

State Sanatorium and Red Cross
Co-operating

BASIC CONSIDERATIONS

1. Tuberculosis, always a serious menace to social welfare and a drain upon state and national energies, in war times, becomes a special problem for solution through untiring, patriotic endeavor.

2. The war has revealed hundreds of cases of tuberculosis not previously known—(a) Tuberculous soldiers discharged "in line of duty," (b) Tuberculous soldiers discharged "not in line of duty," and (c) Men rejected by the draft boards because of tuberculosis.

3. There is imperative need of immediate and adequate machinery for the care and treatment of all soldiers or rejects, or members of their families, affected by tuberculosis, and for the adequate care of their families while they are being treated.

4. There is furthermore at this time, in view of the manifold calls for service, more than ordinary need for programs that will conserve energy, time and money, as well as promote efficiency in accomplishing the desired results.

5. The policy of the American Red Cross, always providing for the maximum service and coöperation in the use of people's funds entrusted to it, in this instance recognizes an unusual opportunity to perform a definite service and offers to direct its forces to the relief

of all needs, consistent with its organization.

6. State Boards of Health and Anti-Tuberculosis agencies of the states of North Carolina, South Carolina, Tennessee, Georgia and Florida, recognizing this as an extraordinary opportunity to promote their efforts toward the prevention and cure of tuberculosis, realize also the need of coöperating agencies and believe the American Red Cross to have the local organizations best equipped to assist them in this problem.

Therefore, in view of the above considerations and present conditions, and in harmony with the spirit and purposes of the American Red Cross, State Boards of Health and Anti-Tuberculosis agencies, it is deemed absolutely essential that these combined forces shall agree upon an effective plan, whereby they may coöperate in the care and treatment of all tuberculosis patients arising from or revealed through the war and war conditions.

The general plan of agreement between the American Red Cross on the one hand, the State Boards of Health and Anti-Tuberculosis agencies on the other, shall provide for a general policy and a definite procedure.

PROVISIONS

First. That, in case of tuberculous soldiers discharged either in line of duty or out of line of duty, the Bureau of Civilian Relief of the Southern Division of the American Red Cross, through its local Home Service Sections, shall provide care during the interim between their return to the home communities and the time that

more permanent provision may be made for them; and that the families of such soldiers shall be provided for in accordance with the regular policy of local Home Service Sections.

Second. That in the more permanent treatment it will be the policy of the Red Cross to provide for one-third, or more, of the necessary expenses as determined by the expediency of the case over and above what the family can provide.

Third. That in providing for the remaining two-thirds expenses for more permanent treatment of tuberculous soldiers, the effort shall be made by the State Boards of Health and *Anti-Tuberculosis agencies to divide such expenses equally between local agencies, private or public, and State aid or agencies, through effective legislative appropriations in accordance with a definite State Health Program.*

Fourth. But that nothing in this statement of general policy shall be construed to interfere with the jurisdiction of State Departments of Public Health or local Health authorities, or to detract from the function and opportunities of anti-tuberculosis societies, or to vary the program of the Civilian Relief Department of the American Red Cross.

RED CROSS TAKES INITIATIVE

First. The initial contact with returned tuberculous soldiers and rejected registrants shall be made by the Southern Division of the American Red Cross through its Bureau of Civilian Relief. This contact shall include investigation by Home Service Committees of all cases referred to them by the Division Office. Home Service Committees of the Red Cross shall also forward to said office information concerning all local cases discovered by them. Except that initial contact by the Red Cross shall not be made in those locali-

ties reported as having anti-tuberculosis societies.

Second. Such reports when received from Home Service Sections shall be forwarded by the Division Office of the Red Cross to the proper Anti-Tuberculosis Association or State Board of Health for further consideration as to plan for more permanent treatment.

Third. That after the initial contact and report is made by the American Red Cross, the Anti-Tuberculosis Associations or State Boards of Health shall cause an expert examination and diagnosis to be made; shall outline the proper care and treatment; and shall make every effort possible to provide means for the more permanent care of such returned soldiers. In the cases of discharged soldiers they may expect the coöperation of the Home Service Committees in carrying out such plan of treatment as may be agreed upon. In the cases of rejected registrants they shall not expect or request such coöperation, but may use the report received from Home Service Committees as the basis for developing local interest in securing treatment through other sources.

STATE BOARD OF HEALTH TO FURNISH RED CROSS ADDRESSES OF TUBER- CULOUS REGISTRANTS FOR INVESTIGATION

Fourth. That State Boards of Health and Anti-Tuberculosis agencies shall furnish to the Bureau of Civilian Relief of the Southern Division of the Red Cross *a record of rejected tuberculous registrants* with whom they wish contact made by Home Service Committees, and also a record of all returned tuberculous soldiers with whom contact has been made prior to this agreement, which record shall contain all information now in their possession relative to such soldiers.

Fifth. Form letters to be used by the coöperating agencies in carrying out

this agreement shall be submitted for mutual approval. In the event of difficulties arising in any case, the supervisory agency involved shall be notified immediately and adjustment made accordingly.

HOW TO GET TUBERCULOSIS

Tuberculosis is caused by tiny germs which live and multiply in the human body. When these germs are coughed up, sneezed out and otherwise discharged by those having the disease, they are frequently carried to others in one or more ways.

Germs of tuberculosis are much more active and likely to cause the disease when they have just been coughed, sneezed or spit out than they are after they have been outside the human body for a week or more. No one should ever needlessly expose himself by breathing dust from dried tubercular sputum. It is highly dangerous also to breathe in an atmosphere or in a close unventilated room, church, store or shop, where a careless consumptive has been coughing, sneezing or spitting. By so doing, one is very likely to inhale the fresh virulent germs of tuberculosis sprayed out into the air by the consumptive. In a closed room such germs may float around in the air for hours.

The same principle applies to contracting colds, pneumonia, "Grippe," diphtheria and several other diseases.

On the other hand, we should avoid exposing others to our diseases known or unknown. Whenever indoors or near any one else, one should always cough or sneeze into a handkerchief, or spit, when necessary, where it will harm no one. By living outdoors and in the fresh air as much as possible any dangerous germs which have been coughed, sneezed or expectorated into

the air will be rapidly carried away, and the danger of infection greatly reduced.

ROBBING THE UNFORTUNATE

The National Association for the Study and Prevention of Tuberculosis is authority for the statement that not less than \$20,000,000 is invested in the business of manufacturing and exploiting fake cures for consumption. It is also estimated that the annual income from these concerns and individuals is not less than \$15,000,000. Of this amount, about one-third is spent for advertising, leaving the tidy sum of \$10,000,000 as profit.

The Association aptly styles this sum as blood money, taken from ignorant consumptives, who have parted with their dollars without receiving benefits of any kind. As yet no drug has been found that will cure consumption; but under medical guidance it is known, that, when taken in time, good food, fresh air, sunshine and rest are the agencies that will avert the progress of the disease and in time effect a cure. Moral—don't buy bottle goods to cure consumption.

TUBERCULOSIS INFECTION DURING CHILDHOOD

It has long been known that a large percentage of post mortem examinations show evidences of old lesions of tuberculosis which have healed, showing that many more persons have the disease at some time or other during their lives than is generally recognized from the number of pronounced cases with which we are familiar. A more recent addition to our knowledge is the fact that by modern specific tests which we possess, from 70 to 80 per cent of all children are found to react positively, showing that the infection prevails widely in some form or other among children. These facts, among

other things, have given rise to the thought that tuberculosis in adults is due in most, if not all cases, to infections received in early childhood. It is therefore more than ever incumbent upon us to guard and protect children against infection with this dread disease. Precautions which are within our power to invoke are the insurance of a safe milk supply for children, either in the form of certified milk from tuberculin tested cows or by pasteurization. Children should also be protected from close association with adults who have tuberculosis and those adults who are necessarily in intimate contact with children, such as parents, should be made to realize the absolute necessity of observing all ordinary precautions against spreading infection.

MORE WORK FOR TUBERCULOSIS ASSOCIATIONS

The physical examinations at the time of the selective draft have revealed to many a young man that he has tuberculosis in the early stages. If he is merely stunned by the news and does nothing but brood over a gloomy outlook, he will probably in a few years become a burden to his relatives or the public. If he seeks competent advice and supervision at once, his disease will usually be arrested and he will live a long and useful life. County tuberculosis associations and those local health departments which employ public health nurses should do their utmost to help and advise these men to overcome their infection before it is too late.

TEACHERS AND TUBERCULOSIS

There is a higher rate of mortality from tuberculosis among school teachers than among stonecutters and barkeepers. The reason for this is the

insanitary condition of the school room, lack of ventilation, over-heating, lack of light, and sedentary occupation.

But not only is the health and life of the teacher at stake; the student also is exposed to these evil conditions. The pupil is cramped up many hours a day, in improperly constructed seats, bending over books in ill-lighted, improperly ventilated, often dusty and overheated school rooms.

It is time now, not next year, or the year after, to give this matter most serious consideration.

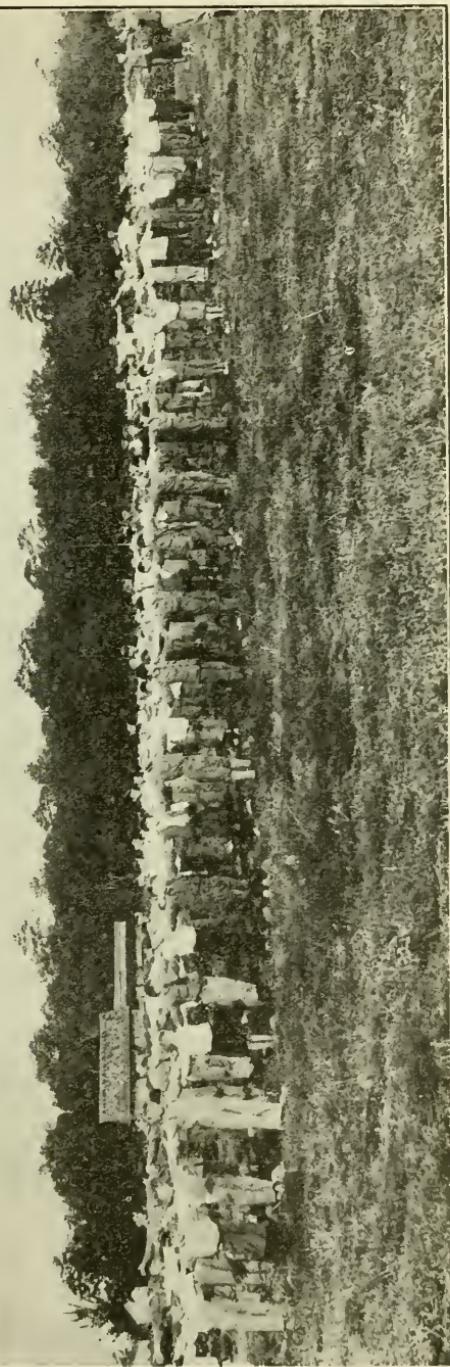
PENALTY OF NEGLECT

The compulsory examination of 10,000,000 of our citizens for army draft purposes has given a new impetus to the annual medical examination idea and particularly to the anti-tuberculosis phase of the movement. For tuberculosis alone from 1 per cent to 6 per cent of these men are being rejected, which means a sharp revision upward of previous expert estimates of the prevalence of the disease. On this basis at least 200,000 of these men will be found to be tuberculous. Most of these cases, the experts declare, would never have developed had the preliminary symptoms been discovered and treated in time. These results, it is pointed out, clearly indicate the wisdom of extending the periodic examination to all citizens.

Why call upon the children and women to do all the conserving? Why should not the men do with less tobacco, less booze, or less vice? Why should not men do without these needless and harmful luxuries altogether? Such practical conservation would save enough to pay off more than one-half of the annual war debt and leave the race in a fine condition to meet the reconstruction period.

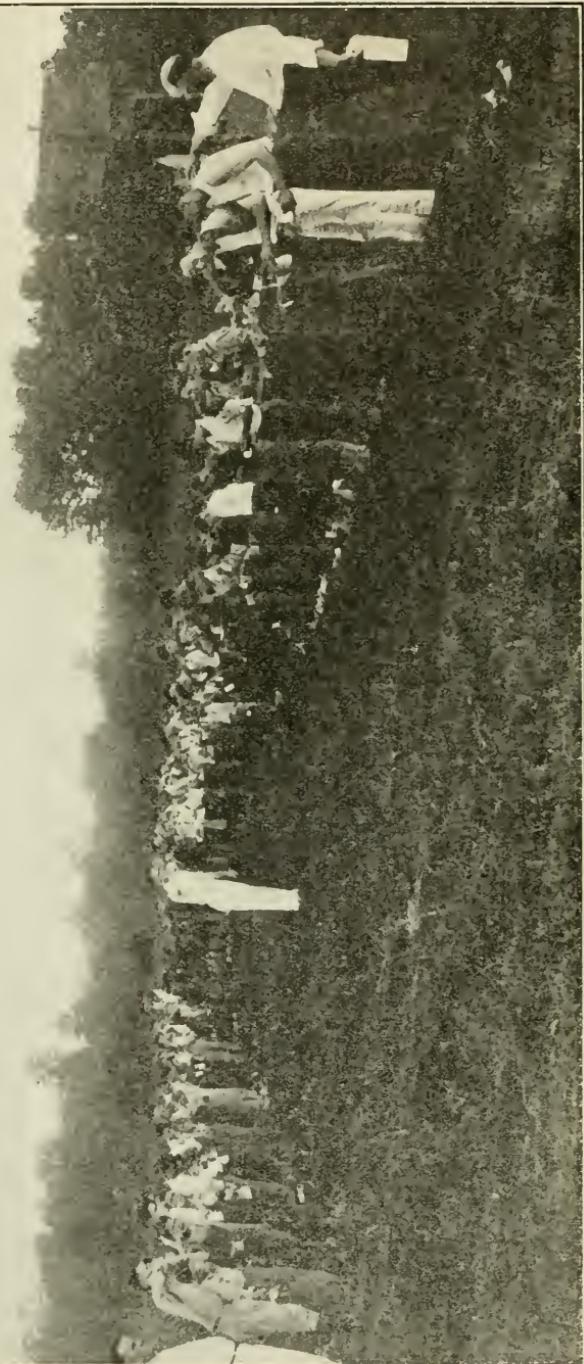
SETTING-UP EXERCISES

In connection with the annual meeting of the Northampton County Agricultural Club Boys at Woodland, August 7-10, 1918, setting-up exercises every morning was a feature.



TOOTH BRUSH DRILL

Tooth brush drill was a feature of the annual meeting of the Northampton Agricultural Club Boys at Woodland, August 7-10, 1918, in connection with the Free Rural Dental Clinic of County and State Health Departments. Mr. W. M. Wall, County Demonstrator, at left; Dr. J. F. West, Dentist, in center; Dr. F. M. Register, County Health Officer, at right.



NOTICE TO READER.—When you finish reading this magazine place a one-cent stamp on this notice, hand same to any postal employee and it will be placed in the hands of our soldiers or sailors at the front. **NO WRAPPING—NO ADDRESS.**



The

The Health Bulletin

Published by THE NORTH CAROLINA STATE BOARD OF HEALTH

This Bulletin will be sent free to any citizen of the State upon request.

Entered as second-class matter at Postoffice at Raleigh, N. C., under Act of July 16, 1894.

Published monthly at the office of the Secretary of the Board, Raleigh, N. C.

Vol. XXXIV

NOVEMBER, 1918

No. 5

EDITORIAL

400 DEATHS FROM DIPHTHERIA

A Question of Embarrassing Responsibility: A child dead from diphtheria with the well-informed always raises the question as to who blundered. A death from this disease invariably casts shadows of suspicion first on the parent, second on the physician, and third on the health officer.

In the last four years (during which time North Carolina has accurately recorded the deaths and the causes of deaths occurring in the State), there has been an average of 400 deaths a year from diphtheria. In 1914, there were 371 deaths; in 1915, 525 deaths; in 1916, 418 deaths; in 1917, 287 deaths. The average number of deaths by months for the four years were, for January, 41; February, 22.5; March, 17.7; April, 15.5; May, 11.7; June, 7.5; July, 9.5; August 26.7; September, 54.5; October, 78.2; November, 65.7; December, 49.5. During the entire four-year period, October, with the single exception of November, 1915, has been the month of the largest number of deaths from diphtheria. Such is the diphtheria situation in North Carolina at the time of the inauguration of a new policy of the Board of Health, which is designed to establish responsibility of various parties for deaths from this easily preventable disease.

The inauguration of this new policy coincides with the distribution by the State Laboratory of Hygiene of a potent diphtheria antitoxin, practically free of cost, to all our people. I say practically free of cost, because the charge for a package of antitoxin, irrespective of its size, 1,000 units or 10,000 units, is 25 cents, the cost of the syringe and the package.

The New Policy of Fixing Responsibility: The State Board of Health proposes to make a careful investigation by personal visit of a trained epidemiologist, of one hundred deaths from diphtheria. The selection of the deaths to be investigated will be indiscriminate, the deaths for certain months of the year being selected as those for investigation. The investigation will be very careful; the facts will be accurate and certified to.

From now on, the Bulletin proposes to publish type cases, giving details, showing (1) deaths from diphtheria where parents were apparently responsible; (2) deaths from diphtheria where the attending physician was apparently responsible; (3) deaths from diphtheria where the health officer was apparently responsible; and (4) deaths from diphtheria where there was apparently no responsibility attaching to any one.

Reaching a Verdict: In determining responsibility, the primary and the fundamental question with the State Board of Health will be *when* did the child get antitoxin? With the exception of one, possibly two, per cent of the deaths from diphtheria, children die because antitoxin is not promptly administered in proper amounts. The following table, based upon 4,000 cases of diphtheria carefully recorded by the Chicago Health Department, shows the effects of antitoxin on the fatality of this disease when the remedy is administered promptly and also late in the disease:

Antitoxin Administered	Cases	Died.	Mortality
Injected 1st day	355	1	0.27 per cent
" 2d day	1,013	17	1.67 " "
" 3d day	1,509	57	3.77 " "
" 4th day	720	82	11.39 " "
" later	469	119	25.37 " "

Less than 6 per cent of the children treated with antitoxin, even as late as the third day, die. Less than 2 per cent so treated during the first two days of the disease, die. This table, with many other similar tables from health departments, prove that diphtheria treated promptly with antitoxin, and in proper amounts, is one of the least dangerous of all diseases, but treated late with antitoxin, is one of the most dangerous of all diseases. The question, therefore, of guilt in the death of a child from diphtheria resolves itself into determining *who* was responsible for the delay in the use of the antitoxin.

When Parents Are Responsible: Parents are responsible for delaying the use of antitoxin and of contributing thereby to the death of their child, when they fail to call a physician on a *reasonable suspicion* of diphtheria. The question, then, shifts to what constitutes reasonable suspicion. Reasonable suspicion exists:

(1) When a child has sore throat and fever, and a whitish, yellowish, grayish membrane or deposit on the top or back of the throat.

(2) When a child living in a community where diphtheria exists, or has recently visited a community in which the disease exists, develops a sore throat and perceptible fever.

(3) When a child living in a family in which diphtheria has appeared several times at intervals of several months for a year or two, develops a sore throat and perceptible fever. (The indications here are that some member of the family is a diphtheria carrier.)

GIVE THE CHILD THE BENEFIT OF THE DOUBT. TRANSFER THE RESPONSIBILITY TO A PHYSICIAN.

When the Doctor is Guilty: (1) When the doctor is called on the first, second, or third day of a case of diphtheria and fails to give antitoxin. In this case it makes little difference whether the doctor made a diagnosis of diphtheria or not; however, if he made a diagnosis of diphtheria and neglected to use antitoxin, the question of criminal practice projects itself.

(2) When a child living in a family in which the doctor has treated a person a week or ten days previously, or when a child has been exposed to diphtheria and the exposure called to the doctor's attention, is not immunized by the doctor and develops a case of diphtheria. The attending physician is under obligation to immunize all children and grown persons in a family where diphtheria occurs, and which he treats unless (a) he applies the Shick test and finds the exposed person or persons with a natural immunity; (b) unless the exposed person or persons have indications of a predisposition to serum shock; (c) unless the doctor is in a position to exercise careful, almost daily, supervision over the family to detect secondary cases of diphtheria in their inception.

When the Health Officer is Guilty:

(1) When a child dies in a county in North Carolina because antitoxin is not available at a price within the easy financial reach of any family. The

State Laboratory of Hygiene now produces an antitoxin which may be had at 25 cents for any size package. The county health officer is responsible for seeing that this State supply of antitoxin is made conveniently available for the people of his county. He should arrange for several depositories for this antitoxin at convenient stations in the county, and should see that these depositories are made known to the public through official notices in the county papers.

(2) The health officer is responsible if a death from diphtheria occurs in a family living in a community in which diphtheria has occurred when the family has not received from the health officer, as is required by the State law, a notice of the occurrence of diphtheria in that community, and an official statement as to the danger of the disease, and the way of avoiding the danger.

When Nobody Is Responsible: (1) When antitoxin in sufficient amount is administered to the sick person on the first or second day, and in certain instances on the third day of the illness. As to what constitutes a sufficient amount, see the article on this subject on page 30 of this Bulletin. If the doctor talks about the danger of antitoxin, see the discussion of this question on page 31 of this Bulletin.

(2) When the disease occurs in an illiterate family, that is, among those "who never had a chance"; in short, when excusable ignorance is responsible for parents failing to call a physician.

Sunlight: As sunlight kills infectious germs, so the light of public intelligence transmitted through the publication of facts (facts sometimes embarrassing), gets rid of ignorance and carelessness and their fatal results. The death rate from diphtheria in North Carolina must go down. The State Board of Health publicly accepts responsibility to reduce this death rate. We have gone on record.—W. S. R.

AFTER THE "FLU"—WHAT?

Any disease affecting the respiratory tract, such as Spanish Influenza, has a tendency to "light up" any tuberculous infection that might have been lying dormant. So if you should fail to recover promptly from the Spanish Influenza—if you should find yourself with a little rise of temperature, 99 or above, in the afternoon, with a subnormal temperature, 98 or below, in the morning, you had better suspect tuberculosis and have a thorough examination of your lungs by your physician or by a specialist.—L. B. McB.

DIPHTHERIA ANTITOXIN FOR TWENTY-FIVE CENTS

The State Laboratory of Hygiene now has diphtheria antitoxin of its own manufacture for distribution in the State.

The Plan of Distribution is Simple: The antitoxin is distributed by cash sale at twenty-five cents per package, whether the syringe contains 1,000 or 10,000 units. The twenty-five cents covers the cost of the syringe and package and in reality the antitoxin itself is free. Any doctor can buy direct from the laboratory if he chooses, but this often entails a delay in the administration of the antitoxin. The druggists also can procure the antitoxin on the same terms. Many druggists have laid in a supply for their customers in the interest of the public health and as a matter of accommodation, but we have no right to ask them to do so as there is no opportunity for profit. It is, therefore, the duty of the local health official (city or county) to see that there is an available local supply on hand. Call on your county or city health officer for this antitoxin when you need it.

Four Sizes: The antitoxin is put up in four sizes: 1,000 units, 3,000 units, 5,000 units, and 10,000 units. The last two sizes are used in treatment, it being

seldom advisable to use so small a dose as 3,000 units, and the 1,000 units packages are used as a prophylactic in case of exposure.

Storage: Diphtheria antitoxin should be stored in an ice box. If this is impossible, a spring-house or other cool place may be used, care being taken to keep the packages dry. When first filled the syringes contain 20 per cent more antitoxin than the labels call for, and loss of potency is very slow if properly stored. After expiration date has been reached the antitoxin is still good if 5 per cent of strength is deducted for each year. The strength of diphtheria antitoxin may be measured exactly, and we can assure you that you can rely on the full potency of each syringe.

Prophylactic Doses: Immunizing doses of antitoxin should be given in cases of exposure. The immunity lasts only a short time—from three to six weeks. A more permanent immunity may be obtained from a Toxin-Antitoxin mixture. Three injections are necessary, and therefore the protection is not immediate, but when established the immunity is believed to persist for four or five years, and possibly longer. Its use is especially advocated for children under 5 years of age, and particularly for those in institutions.

The State Laboratory of Hygiene hopes soon to have Toxin-Antitoxin mixture for distribution, but definite announcement cannot be made at this time.—C. A. S.

IS YOUR HEALTH OFFICER LISTED HERE?

If any child in North Carolina dies from diphtheria this winter because there is not available a supply of diphtheria antitoxin to treat the case, then the death of that child can be charged to the negligence of the county or town health officer just as certainly as if that

officer had carelessly run down the child with his automobile.

Diphtheria antitoxin is supplied almost free of charge by the laboratory of the State Board of Health, the charge being only 25 cents for sufficient to treat any case. The duty rests upon the county or town health officer to keep a supply on hand to meet calls that may be made.

Here is a list of the county and town health officers who have purchased the antitoxin, together with the names of places where a number of individual physicians and drug stores have laid in a supply. If the name of your county or town health officer is not listed you should call his attention to the fact.

City Health Officers: Dr. W. W. Stan-cill, Raleigh; Dr. C. C. Hudson, Char-lotte; Dr. J. T. Rieves, Greensboro; Dr. R. L. Carlton, Winston-Salem; Dr. C. V. Reynolds, Asheville.

County Health Officers: Dr. C. E. Smith, Toecane, Mitchell; Dr. J. E. Malone, Louisburg, Franklin; Dr. J. M. Sullivan, Hayesville, Clay; Dr. F. M. Register, Jackson, Northampton; Dr. C. E. Low, Wilmington, New Hanover; Dr. Arch Cheatham, Durham, Durham; Dr. W. A. Bradsher, Roxboro, Person; Dr. W. E. Warren, Williamston, Mar-tin; Dr. J. S. Mitchener, Kinston, Lenoir; Dr. H. J. Tilson, Murphy, Cherokee; Dr. P. B. Loftin, Beaufort, Carteret; Dr. L. J. Smith, Wilson, Wil-son; Dr. K. E. Miller, Tarboro, Edge-combe; Dr. D. T. Watson, Southport, Brunswick; Dr. E. J. Bryson, Smoke-mont, Jackson; Dr. E. F. Long, Lex-ing-ton, Davidson; Dr. J. F. Jonas, Marion, McDowell; Dr. L. H. Coffey, Lenoir, Caldwell; Dr. J. W. Jones, Boone, Watauga; Dr. J. W. Rodwell, Mocks-ville, Davie; Dr. G. S. Attmore, Stone-wall, Pamlico.

Physicians or Drug Stores in the following Towns: Winton, Hertford; Catawba, Catawba; Currituck, Currituck; Albemarle, Stanly; Chapel Hill, Orange; Palmerville, Stanly; Elm City,

Wilson; Bakersville, Mitchell; Maiden, Catawba; Clifton, Ashe; Pink Hill, Lenoir; Pilot Mountain, Surry; Burlington, Alamance; Hertford, Perquimans; Danbury, Stokes; W. Jefferson, Ashe; Mt. Olive, Wayne; Troy, Montgomery; Greenville, Pitt; Advance, Ashe; Ayden, Pitt; Cooleemee, Davie; Red Springs, Robeson; Canton, Haywood; Clayton, Johnston; Coleraine, Bertie; Knightdale, Wake; Statesville, Iredell; Maxton, Robeson; Marshall, Madison; Trenton, Jones; Jacksonville, Onslow; Gastonia, Gaston; Elkin, Surry; Goldsboro, Wayne; New London, Stanly; Angier, Harnett; Salemburg, Sampson; Aulander, Bertie; Woodland, Northhampton; Raeford, Hoke; Oakboro, Stanly; Farmer, Randolph; Candler, Buncombe; LaGrange, Lenoir; Stanfield, Stanly; White Rock, Madison.

AMERICAN RED CROSS AND RED CROSS SEALS

The December campaign of the American Red Cross for new members and the annual Red Cross Seal drive have been combined and there will be no sale of Red Cross Seals this December, but every one who joins the American Red Cross will receive a packet containing a certain number of Red Cross Seals and literature in regard to the fight against tuberculosis.

The American Red Cross recognizes our responsibility in, and the importance of, taking the "germ" out of Germany; it also recognizes the great importance of destroying the germ of tuberculosis. It is doing more now, and will continue to do more and more, in the fight against tuberculosis than ever before.

Further announcement will be made in the December issue, but let it be said that the annual membership fee is one dollar, and every man, woman, and child in America ought to be a member.—L. B. McB.

The chief of the Bureau of Tuberculosis of the State Board of Health, Sanatorium, has been appointed Collaborating Epidemiologist, United States Public Health Service, and on account of such appointment will be able to use franked envelopes in correspondence in regard to reporting cases of tuberculosis, and will furnish physicians franked envelopes in which they may send their reports to this office without postage. Recently we endeavored to send a supply of these franked envelopes to every physician in the State, also report cards. If you failed to get yours, or if you need more of either, write us.

The physicians of North Carolina cannot escape their responsibility in the fight against tuberculosis. He mans the outposts; he mans the listening posts; he is in the front line trenches; he makes the first contact with the enemy. The physicians in North Carolina can be counted on to the last man in the fight against Germany. Our people expect the same devotion to duty, the same loyalty, in the fight against the germs of tuberculosis, and their expectation will be realized.

If you need a thing, you are paying for it whether you buy it or not. If it is a sanatorium our people need, it is paid for today and every day that follows in a definite money loss—it is paid for today and every day that follows in sorrow, suffering, sickness, and death. And then it must be paid for over and over again with interest compounded daily by all future generations.

It is far cheaper to pay for it NOW.
It is far better to pay for it NOW.

The Returned Tuberculous Soldier

He offered his all for you; it is your privilege to do your best for him. Could you conscientiously do less?



PUBLIC HEALTH AND SANITATION



Edited by DR. W. S. RANKIN

DIPHTHERIA

The Danger of Diphtheria

This disease, depending upon the way it is treated, is either one of the least or one of the most dangerous of all diseases. It is one of the *least* dangerous when promptly treated with antitoxin; it is one of the *most* dangerous when the antitoxin treatment is incomplete, delayed, or not given.

Before antitoxin was discovered the mortality from diphtheria was 81 deaths per hundred thousand of the population. Since the use of antitoxin in the treatment of diphtheria, the mortality has dropped to 21 deaths per hundred thousand of the population. This means that something like fifty to sixty thousand lives are saved every year in the United States through the proper use of antitoxin. *Before* the use of antitoxin, from 30 to 60 persons out of every hundred who contracted the disease died; *since* its use, only about 8 persons out of every hundred who contract the disease die.

The fatality of the disease depends largely upon *when* the antitoxin is used. The following table illustrates this important point:

Antitoxin Administered	Cases	Died	Mortality
Injected 1st day	355	1	0.27 per ct.
" 2d day	1,018	17	1.67 " "
" 3d day	1,500	57	3.77 " "
" 4th day	720	82	11.39 " "
" later	469	119	25.37 " "

The unmistakable message of these figures is this: When there is the least suspicion that your child has diphtheria, that is to say, when there is diphtheria in the neighborhood and the child is feverish, "out of sorts," and has a slight sore throat, get a doctor and make sure that the child does not have diphtheria. When in doubt, use antitoxin. It will not hurt. If an attack of diphtheria is beginning it will give the child almost one hundred chances out of one hundred to get well. The figures of the table quoted above

show how vital an early diagnosis is in diphtheria. The efficacy of antitoxin treatment is in direct proportion to the promptness with which it is used.

Antitoxin—Where to Get It

It is the business and the responsibility of your county health officer to arrange for an adequate and convenient supply of antitoxin for your county. It is only necessary for the county health officer to get the consent of four or five drug stores or any store with a refrigerator, doctors' offices, or other places, to agree to keep on hand a supply of the State antitoxin for distribution to the people of the county on application. The State Laboratory of Hygiene will then deposit the necessary amount of antitoxin with the county depositories for general distribution.

The State antitoxin can be secured from the depositories in any size package, that is, packages containing anywhere from 1,000 to 10,000 units, for 25 cents a package. This charge is not for the antitoxin, but simply covers the cost of the package, plus the syringe.

Of course, it is all-important that your county health officer notify the doctors of the county by letter of these depositories, and also notify the people of the county through the press that (1) the State supply of antitoxin is available; (2) that it will cost them only 25 cents a package; and (3) of the place where it may be had.

If you cannot reach your county health officer or county quarantine officer, call on the chairman of your county board of health. It is the business of these two officials to see that their people are conveniently supplied with this life-saving remedy at a price within the reach of all.

Dosage

One of the greatest authorities on the treatment of diphtheria, Dr. L. Emmett Holt of New York, speaking of antitoxin, says:

"Convinced now of the essential harmlessness of the serum, the tendency everywhere has been to use larger and larger doses, a practice which has been fully justified by the results obtained. For a child over two years old an initial dose for a severe attack, including all laryngeal cases, should not be less than 7,000 or 8,000 units; repeat it in from six to eight hours, provided no improvement is seen. Children under two years should receive from 5,000 to 6,000 units. Cases of exceptional severity, in older children, should receive from 10,000 to 15,000 units, to be repeated in from six to eight hours if the progress of the disease is unfavorable. Mild cases should receive from 3,000 to 5,000 units as an initial dose, a second being rarely required."

Protect the Other Members of Your Family

Not everybody is susceptible to diphtheria. Only from 30 to 40 per cent of people will contract the disease when exposed to it. There is a test known as the Shick test by which may be determined whether one is or is not susceptible to diphtheria. This test consists of a hypodermic injection *into* the skin, not *under* the skin, of one or two drops of a very dilute amount of diphtheria toxin. If the person so injected is susceptible to the disease, a very small red swelling about the size of a dime appears about the site of the injection within twenty-four hours and lasts for about a week. If, on the other hand, the person is immune to diphtheria no such reaction occurs. This test causes but very slight inconvenience. When a case of diphtheria occurs in a family it is therefore possible for the physician, through the simple test above described, to determine which members of the family are liable to contract the disease and which members are immune to the disease. Those members of the family who are found to be susceptible to the disease should immediately be given from 500 to 1,000 units of antitoxin, that is, an immunizing or protective dose. In this way they become protected from the disease for at least six weeks. Where the physician is not prepared to use the Shick test, the only safe thing to do is to assume that all members of the family in which there is a case of diphtheria are liable to the disease and to give all of them the immunizing dose of antitoxin.

Is the Antitoxin Treatment Dangerous?

Dr. W. H. Park, one of our greatest authorities on the use of antitoxin, says: "In 140,000 persons injected by the New York City Health Department inspectors, there were two deaths due to serum (antitoxin). About the same proportion is reported from Boston." He further states that "about thirty deaths in all have been reported" from the use of antitoxin treatment. This means that in the treatment with antitoxin of something like 160,000 cases of diphtheria each year in the United States there are from two to five deaths from the use of antitoxin. On the other hand, the evidence is conclusive that if the 150,000 cases were not treated with antitoxin, there would be from 40,000 to 50,000 deaths from diphtheria, whereas, just so many deaths are prevented through the use of this great remedy. While in the treatment of 50,000 cases with antitoxin there is one death due to the antitoxin, there would be from 10,000 to 12,000 deaths as a direct result of the failure to use this great life-saving agent.

It is, therefore, clear that it is no less than criminal to attempt to treat diphtheria without antitoxin. The few deaths following the use of antitoxin have usually been in persons who were subject to asthmatic attacks, more especially persons whose asthma was usually aggravated by coming in close contact with horses. When treating asthmatics for diphtheria, it is well for the doctor to inject only from two to three or from four to five drops of antitoxin and wait a few minutes to see how the patient will react before giving the full dose.

The Cause of Diphtheria

Diphtheria is due to a small germ that lives in the upper respiratory passages, usually in the nose and throat, but sometimes in the larynx or Adam's apple. This germ is found in three groups of people: (1) People with recognized cases of diphtheria; (2) people with mild, unrecognized cases of diphtheria, who are spoken of as "missed cases"; (3) well people with infected throats, who are spoken of as "carriers."

People with recognized cases of diphtheria have the following symptoms: a very sore throat, which is usually accompanied by a white membrane on the sides and back of the throat. The membrane is sometimes patchy and

may be very small in amount. It may be so located as to be invisible, and it may be absent. With these local symptoms there is fever, rapid pulse, and other symptoms indicating general constitutional involvement. When there is any doubt as to the nature of the disease, a diagnosis is easily made by swabbing the throat with a small piece of cotton on the end of a wire, then wiping the cotton on a glass slide and examining the exudate or phlegm under the microscope for the diphtheria germ.

People with mild, unrecognizable cases of diphtheria, or "missed cases," are one of the most prolific sources of the disease. Such people suffer with very mild sore throats, no membrane being present, and with very slight general symptoms. They are not sick enough to send for a physician, and it does not occur to them that they may have diphtheria. They remain about their business, freely mixing with the general population, and serve to spread and maintain epidemics even more than the recognized cases of the disease, who are restricted in their movements by their more serious illness. It is estimated that in an epidemic of diphtheria there is one "missed case" for every recognized case of the disease.

Well persons with diphtheria infected throats, or "carriers," like the second group, the "missed cases," are prolific sources of the disease on account of their mingling with the general public. In an epidemic of diphtheria that has lasted for any length of time, about 1 per cent of the population become "carriers." "Carriers" are usually persons who are or have been closely associated with recognized cases or "missed cases" of the disease, or who themselves have recovered from a known or an unsuspected case of diphtheria. Frequently, following a case of diphtheria in a family, one or more members of the same family become "carriers" and remain so for several months or perhaps years.

In this way secondary cases of diphtheria occur in the family from time to time, and the mistake is frequently made that the room or house is suspected of being permanently infected with the diphtheria germs, instead of suspecting what is practically always the true explanation, that some member of the family is a "carrier."

The germ of diphtheria is transferred from the recognized case of the disease, the "missed case," or the "car-

rier," to a well person, generally through throat or nasal secretions. This transference may take place in one of the following ways:

(1) In acts of coughing and sneezing without holding a handkerchief or some other cover in front of the mouth and nose, when small particles of the secretions, so small as to be practically invisible, are thrown into the air, where they float for some time. Persons coming within three or four yards of an infected person who has coughed into the air within the last minute or five minutes are liable to breathe in some of the infection from the air.

(2) An infected person soils his hands with the secretions of his mouth and nose, and by shaking hands with a well person infects the hands of that person, who transfers the infection to his mouth or nose, and so contracts the disease.

(3) An infected person may use tableware, knives, forks, spoons, cups, or plates, or pieces of food which a well person may later handle or use, with the result that he becomes infected from the contaminated article. One of the most public sources of this kind is the common dipper and water-bucket found in many schoolrooms.

Precautions During the Disease

1. Faithfully carry out the rules furnished by the quarantine officer.

2. Separate the sick person from the other members of the family in as far as such separation is practicable, and allow no one except those necessary for attendance upon the sick to be about the sick.

3. Supply the sick person with paper napkins, rags, or handkerchiefs, and insist on the sick person holding these rags, napkins, or handkerchiefs in front of the mouth and nose when coughing or sneezing.

4. See that the sick person has his own set of eating utensils, and that these, with all particles of unconsumed food, are thoroughly disinfected, before being used by another, with water that is *boiling when it is poured over the utensils and food.*

5. Nurses and attendants upon the sick must carefully wash their hands with soap and water and then dip them into a solution of carbolic acid, a tablespoonful of the acid to one pint of water, before handling anything that any other person touches.

6. All clothing or fabrics of any kind

should either be boiled or thoroughly soaked in a solution of carbolic acid in the strength of a tablespoonful of acid to a pint of water before being sent away from the home, or before being used by other people.

Directions of the North Carolina State Board of Health for Householders on the Termination of the Disease

1. Where there is more than one living room in the home, have the convalescent person take a warm bath, dry thoroughly, put on the underclothing, and leave the sick room, going into another room that has not been used by the sick, there complete the dress. It is best for the outer clothing not to be exposed to the air of the sick room.

2. The person acting as nurse should now put on an apron or outer dress, open all the windows and doors to the sick room, remove all sheets, pillow-cases, curtains, and other cotton and linen fabrics that may contain infectious material, and place these things at once in boiling water, to which should be added later the apron or outer garment worn by the nurse who cleans the room.

3. Remove all blankets, mattresses, pillows, carpets, and other unwashable materials and expose them as thoroughly as possible to the warm sun for at least two days.

4. The floor of the sick room or rooms should now be thoroughly scrubbed with soap and water, or, if the floor is an oiled floor, revarnished or oiled.

5. After cleaning the floor, take a cloth, wet it in the solution of carbolic acid in the strength of a tablespoonful of the acid to a pint of water, and wipe down all woodwork, including mantelpiece, wainscoting, furniture, and floors.

6. The room, where living conditions will permit, should be kept open and well aired for two days before occupying again. Where the house is a one-room or two-room house and the living space will not permit these precautions to be carried out in full, the cleaning should be done as thoroughly as circumstances will allow.

"A deal of health progress is blocked because some men have their wishbones where their backbones ought to be."

COLDS

Colds are caught. How are they caught? What can be done to avoid catching cold? In answer to these questions the State Board of Health says: All colds and indeed all diseases of the breathing organs are largely due to air starvation. Benjamin Franklin noticed this truth and wrote as follows:

"I believe it is unnecessary to have colds, for I have observed that when I treat myself to plenty of outdoor air I never catch cold. When I have caught cold, I noticed that one or two days before its appearance I had eaten heartily and then sat around in a closed room with many others until the air got bad and the room filled with tobacco smoke. I have also noticed that by staying much in the open air and lifting my bedroom windows high, that I get well quickly."

The great man was correct in his observations. Overeating lessens resistance for a brief period while the abused stomach is trying to digest the overload of garbage; and this abuse of the body being followed by the second abuse of not giving it enough air, runs resistance down so low that the cold microbes, which are everywhere, get in their work.

The sure remedy against colds is to eat moderately and breathe plenty of pure air. Of course, the skin, kidneys and bowels must act correctly, for if they do not this, too, will reduce resistance and let the cold microbes grow in the nose and other air passages.

Every man is the architect of his own colds. Bronchitis, pleurisy, pneumonia, and tuberculosis are routes to early death, and they trail after colds.
—Indiana Health Bulletin.

Do not neglect the teeth during illness.

PERSONAL HYGIENE



Edited by DR. B. E. WASHBURN

THE QUANTITY OF FOOD REQUIRED BY THE BODY

In discussing food requirements it simplifies many complex questions to compare the body to a machine—a boiler and engine. The comparison is justifiable and is a good one, for food is actually burned in the body by the aid of the air we breathe just as coal is burned in the boiler by the aid of the air. The human body, in order to perform physical and mental work, expends heat and other energy, and it is food which supplies the material for the generation of this heat. The body, in addition to the work it does, must be kept at an almost constant temperature, which is ordinarily above that of its surroundings. And, also, the body must constantly renew the varied elements (tissues) of which it is composed just as a machine must have worn and broken parts replaced by new ones. Food and air furnish the crude products for work, heat, and repair in the body and in the machine.

The diet must contain the essential food elements so combined as to be available for use by the body, either directly or after action by the body secretions and tissues. The food problem is to know the proper constituents of necessary food and how they should be combined in the daily ration, and to know the proper number of heat units necessary to maintain each individual under given requirements. The food constituents and their relation to the body needs were discussed in the October Bulletin. The present article will consider the quantity of each kind of food used by the body.

The majority of the food we eat is used as body-fuel. For this reason food is measured in fuel-units, which are called *calories*. Many people eat too much, while a few do not eat enough. Mistakes of diet are often made by a person measuring his food by its weight

or bulk and not by its fuel value. Some foods contain many calories of food-fuel value in a given bulk (i. e., are concentrated), while others are bulky and contain but few calories in a given bulk. An ounce of olive oil contains more calories (more food-fuel) than three pounds of tomatoes, lettuce, string beans, or watermelon. Olive oil is a concentrated food while most vegetables are bulky foods.

The quantity of food required varies with different individuals, and may vary in the same individual, depending upon his periods of work and rest and upon the kind of work he does. An indoor worker needs only about half the calories of food that is necessary for an outdoor laborer. A farmer needs about one-third more fuel than the indoor clerk. The average woman takes little exercise and needs about one-third less fuel than the average man. Children need more calories in proportion to their size and age than an adult. Girls and boys of fourteen to seventeen need as much or more than full-grown adults. People vary in their fuel needs just as different types of engines vary in their fuel needs.

The ordinary male indoor worker needs about 2,500 calories of food-fuel per day. The larger the person or the more muscular the work he does, the more food he will require. Before describing individual body needs we will consider how much it takes of some of the common foods to make a given amount of food value—say, 100 calories. In many cases the ordinary amount of food served in our homes happens to contain about 100 calories. The following list is from "How to Live," by Fisher and Fisk. "We find 100 calories in a small lamb chop (weighing about an ounce); in a large egg (about 2 ounces); in a small side-dish of baked beans (about 3 ounces); in 1½ cubic inches of cheese (about an ounce); in an ordinary side-dish of sweet corn

(about 3½ ounces); in one large-sized potato (if baked, about 3 ounces; if boiled, about 4 ounces); in an ordinary thick slice of bread (about 1½ ounces); in one shredded wheat biscuit (about an ounce); in a very large dish of oatmeal (about 6 ounces); in a small piece of sponge-cake (about an ounce); in a third of an ordinary piece of pie (about 1½ ounces); in three teaspoonfuls of sugar (about 1 ounce); in a dozen peanuts (about ½ of an ounce); in eight pecans (about ½ an ounce); in four prunes (about 1 ounce); in a large banana (about 4 ounces); in half a cantaloupe (about 9 ounces); in seven olives (about 1½ ounces); in a very large orange (about 10 ounces); in an ordinary pat of butter (about ½ an ounce); in a quarter of a glass of cream (about 2 ounces); in a small glass of milk (about 5 ounces).

"One reason why many people eat great quantities of food without realizing it, is the common delusion that many articles such as candy, fruits, nuts, peanuts, and popcorn often eaten between meals, "do not count." Another common oversight is to overlook accessories, such as butter and cream, which may contain more actual food value than all the rest of a meal put together. Ice-cream and other desserts also have more food value than is usually realized. Nature counts every calory very carefully. If the number of calories taken in exceeds the number used by the body (or excreted unused), the excess accumulates in fat or tissue. Thus, if some 3,000 calories are taken in each day and the calories used up or excreted are only 2,800, then 200 must be retained and accumulated in the body."

FOOD CONSERVATION IS A MORAL DUTY

(From "The Day's Food in War and Peace," issued by the United States Food Administration.)

Our problem is to feed the Allies and our own soldiers abroad by sending them as much food as we can of the most concentrated nutritive value in the least shipping space. These foods are wheat, beef, pork, sugar, and fats.

Our solution is to eat less of these and as little of all foods as will support health and strength. All saving counts for victory.

The situation has become critical.

There is not enough food in Europe, yet the soldiers of the Allies must be maintained in full strength; their wives and children at home must not face famine; the friendly neutrals must not be starved; and, finally, our own army in France must never lack a needed ounce of food.

There is just one way in which all these requirements can be met. North America must furnish the food. And we must furnish it from our savings because we have already sent our normal surplus.

The available supply of food is less than ever before. Many million men have changed from sedentary workers to soldiers, and soldiers need more food. Millions of women are doing harder work and need more food. The very fact that these people are now engaged largely in manual pursuits decreases production and makes greater the need of importing food.

Food is wasted if it is eaten when it is not needed as well as when it is thrown away.

Conservation is a moral issue. It is intemperance to waste food.

Conservation means national saving of all resources.

If this democracy has not reached such a stage of development that it has in its people the self-denial, voluntary self-denial, willingness to sacrifice, to protect its own institutions and those of Europe from which our own were bred, then it deserves to go down and take another form of civilization.

We hold it in our power, and ours alone, to keep the wolf from the door of the world. This duty is wider than war—it is as wide as our humanity.

FIRST AID MEDICINE

First Aid for Injuries

First aid treatment of the common injuries is not nearly so difficult as is sometimes supposed. One fact must always be remembered, however: any injury in which the skin is pierced through, or, in other words, in which there is a hole in the skin (slight scrapes and scratches may be disregarded), has the additional danger of surgical infection and blood poisoning. Whatever else we do, we must always try to prevent this.

Prevention of infection was first known some years after our Civil War, but since that time it has resulted in

the saving of hundreds of thousands of lives more than were lost in that war and all later wars down to the present time.

The most important things to know in order to be able to render first aid service in cases of accidents and injuries are the facts about shock and its treatment.

Shock

Every injury, except the most slight, is accompanied by what is called *shock*. When the ends of the nerves receive a blow they carry the jar to the very delicate brain, and the effect there is called shock. Perhaps some time you have hit your finger with a hammer. You feel very sick for a moment and sit down. A clammy sweat breaks out; you are too weak to get up, and you hardly know what is going on around you. *This is shock.* It is more marked in a severe injury. Shocked people are often unconscious; they do not know or care what is happening around them; they lie prostrate and cold, with weak pulse and shallow breathing. This may grow worse and cause death. The point is, that you must never forget that in any injury shock is likely to be present and must be treated. The treatment is to stimulate the body in every way. Lay the patient flat on his back, so that the heart can easily pump blood into the brain. Cover warmly, placing hot bottles or bricks around the body, if procurable. Be careful to have them covered so that they will not cause burns. Rub both arms and legs toward the body, but do not remove the coverings to do so. As soon as a shocked person can swallow, give him a half-teaspoonful of aromatic spirits of ammonia in half a glass of water, then hot tea or coffee. Keep the patient warm and well covered until recovery is complete. Always send for a doctor unless shock is very slight. Except in cases of injuries accompanied by severe bleeding, shock should always be relieved or at least treated before the injury is treated.

Burns and Scalds

Burns are caused by dry heat and scalds by moist heat. With both, the injury may be very shallow, skin-deep only, or very deep, down to the bone. Shock is often severe.

Treatment.—Of course, when the skin is burned through, the protection that it gives the body against germs is lost.

On the other hand, the charred or cooked body tissues in themselves form a wall through which germs cannot pass. The lesson to be learned from this is that with burns and scalds it is not necessary to take the very great care against the entrance of germs that is essential in a wound. All burns which are very deep, covering a good deal of surface, or in which shock is severe, require the services of a physician.

In all burns your object will be to stop the pain by protection from the air. Good remedies are a paste made of baking soda and water, carbolized vaseline, or any grease like lard—even cream. Put one of these substances on the burned part, cover with a piece of cloth, and bandage or tie in place. Surgical gauze may be used for the cloth, but this is not necessary. Treat shock.

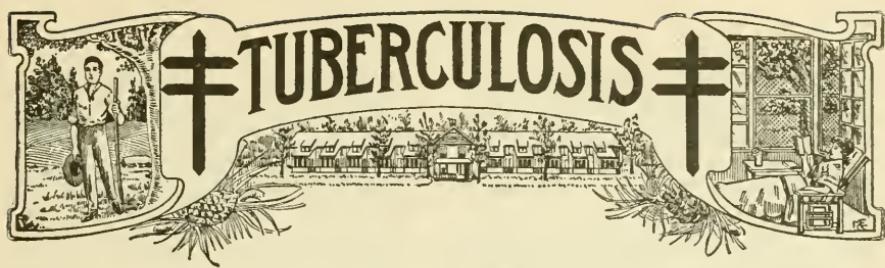
In burns from strong acids or alkalis, wash off as quickly as possible. For acids, neutralize with baking soda in water or soapsuds; for alkalis, use vinegar or lemon juice. Afterwards treat like other burns.

SUGGESTIONS FOR THE CARE OF THE TEETH

When you get up in the morning and just before going to bed at night brush your teeth with lukewarm water and a good dental cream or powder. Your dentist can tell you of one having a pleasant taste that will make your teeth clean and leave your mouth cool and sweet.

Do not brush the teeth straight across. The outside of the upper teeth should be brushed downward from the gums; the lower teeth upward. Clean the inside of your teeth—next to your tongue—in the same way. The part of the teeth used for chewing food (the grinding surfaces) should be brushed in all directions.

Go to the dentist at least once every six months. Have him remove stains, and fill cavities so that decay can no longer continue. The dentist's work will not hurt you so much if you go twice a year.



Edited by DR. L. B. McBRAYER

THE TUBERCULOUS SOLDIER AND THE REJECT

Arrangements have been made with the American Red Cross, through its Division of Civilian Relief, Mr. Joseph C. Logan, director, whereby the Home Service committees of local chapters shall visit and look into the needs of every soldier from North Carolina who is discharged and returned home on account of tuberculosis. This Home Service committee will endeavor to get the discharged tuberculous soldier to enter a sanatorium for treatment, or if he has doubts as to whether he has tuberculosis or not, to go to the State Sanatorium or some other expert physician for examination. They will endeavor to take such care as may be necessary of the tuberculous soldier's family during the absence of the soldier at a sanatorium. The Home Service committees receive their instructions direct from Mr. Logan.

When the Government has sufficient hospital beds to take care of its tuberculous soldiers, it will do it in its own institutions, but at the present it is using the State Sanatorium to the limit possible with the crowded condition that is chronic there, and private sanatoria at Black Mountain, Hendersonville, or Asheville.

The Rejects

When the Home Service committee has caught up with the work incident to the discharged tuberculous soldier, they will visit all the men who have been rejected by local boards or district advisory boards on account of tuberculosis, and endeavor to impress upon them the importance of taking treatment in a sanatorium. As mentioned above, the United States Government assumes full responsibility for the care and treatment of discharged tuberculous soldiers, but it does not assume any responsibility for the treatment of the man who is rejected by his local

board or his advisory board on account of tuberculosis. Nor do the instructions to the local chapters of the American Red Cross place upon them any official responsibility for the care of this reject, but what the Home Service committee cannot do officially the good men and women who compose the Home Service committee can do, independently of their official connection with the Home Service committee of the American Red Cross, i. e., as citizens of the town or community they can perform their moral duty and secure treatment for the rejected man by (a) from his own funds, (b) donations from town council or county board of commissioners (see law in regard to same passed by 1915 General Assembly), donations from churches, fraternal organizations, woman's clubs, Red Cross seals, etc., etc. And they can by their visit give to the rejected man proper literature and teach him the important things necessary in order that he may not kill the other members of his family with the disease.

The Soldier's Tuberculous Wife

A soldier, home on a furlough, recently brought his wife to the State Sanatorium. He had just thirty hours in which to join his command in a near-by State. A sensible doctor had advised him to bring his wife on down without consulting the superintendent, saying to the soldier, "I know they require that formal application be made and that the accepted applicant wait his turn to be admitted, but I also know that the management has a heart and is imbued with the true spirit of patriotism, so go on down without delay." On account of the always crowded condition, this soldier's wife was allowed to sleep on a reclining chair until a vacant bed could be had, and the soldier, a private, made over to her an allotment of fifteen dollars per month which the Government duplicated, and the local chapter of the American Red

Cross in her and his home county will provide the clothing and incidentals she will need while here. The soldier was advised to go on back and fight for his country and was assured that his wife would have the very best of care.

It is the official duty of the local chapter of the American Red Cross to take care of such cases as above recited, as the following quotation from their instructions by H. D. Gibson, general manager of the Red Cross, to all division directors proves:

"Whenever an individual chapter feels unable or unwilling financially to undertake home service, you are authorized to state to the chapter concerned that its funds should be used so far as needed for the welfare of the families of soldiers and sailors in that community, even if the result must be the curtailing of work along other lines. The only Red Cross funds available for home service are those of the chapter itself, whereas the surplus funds of all chapters can be used if necessary for general relief supplies.

"It should be made definitely certain that a chapter with funds, no matter how limited, should not neglect its home service obligations, because to do so will likely cause the families of soldiers and sailors there to suffer privation or to oblige them to sacrifice health by reason of overwork, or un-

suitable work, or to apply to public or private charities."

It is made the official duty of the local chapter of the American Red Cross to look after the soldier's tuberculous wife or sister for many reasons, one of which is that a soldier who has a wife back home ill with tuberculosis cannot make a good soldier unless he knows that she is receiving proper care and treatment, and it would interfere with the morale of our army; and again it would not be common fairness to our soldier to take him away from his sick wife and send him across the water to fight the battles of democracy, unless we assure him that his wife will receive proper care and treatment. Hence, the instructions quoted above to the local Red Cross chapters.

BUT the rejected tuberculous registrant and the rejected registrant's wife are left to civilian agencies—state governments, county governments, city governments, state boards of health, city and county health agencies, and the constructive minded people of our State, our counties, our cities, our communities. So far as the State government and the State Board of Health are concerned, they are confronted with the urgent need and insistent demand for more room at their sanatorium.

AMERICA EXPECTS EVERY MAN AND WOMAN TO DO THEIR DUTY TODAY.

INFLUENZA AND WHAT YOU SHOULD KNOW ABOUT IT

How and Where Influenza is Spread

1. By careless spitting, coughing, sneezing, and using the same drinking vessel or towel others have used. The disease germs are carried in the spittle and in the little drops of secretion from the nose and throat.

2. In crowds and public gatherings, churches, schools, picture shows, business houses, fairs, circuses, trains, or in any other places where people congregate. Soda fountains are especially dangerous if they do not supply individual sanitary cups and sterilized spoons.

How to Keep From Taking Influenza

1. Keep away from crowds, especially indoor gatherings.

2. Avoid people who cough, sneeze, and spit without holding a handkerchief over the nose and mouth.

3. Do not use common drinking cups or towels, and keep away from the soda fountain that does not supply individual cups and sterilized spoons.

4. Keep the bowels open. Snuff vaseline up the nose three times a day. Gargle mouth and throat and rinse out nose with warm salt water, using a

level teaspoonful of salt to a glass of warm water. Sleep and eat regularly. These are very important.

5. Keep in the open air and sunshine as much as practicable and have good ventilation in the home and office. Sleep with your windows open.

6. Wash your hands before eating, and never put your unwashed hands in your mouth.

7. Do not give the disease to others—when you sneeze or cough always bow the head and cover both nose and mouth with handkerchief.

Symptoms of Influenza, and What to Do if You Take It

1. In most cases a person taken with influenza feels sick rather suddenly. He feels weak, has pains in the eyes, ears, head or back, and may be sore all over. Many patients feel dizzy, some vomit. Most of the patients complain of feeling chilly, and with this comes a fever in which the temperature rises to 100 degrees to 104 degrees. In most cases the pulse remains relatively slow.

In appearance one is struck by the fact that the patient looks sick. His eyes and the inner side of his eyelids may be slightly bloodshot or congested. There may be running from the nose, and there may be some cough. These signs of a cold may not be marked; nevertheless the patient looks and feels very sick.

2. If you have any of the above symptoms, go to bed at once and send for a doctor and follow his directions explicitly.

3. If you cannot obtain a doctor at once, stay in bed with plenty of cover to keep you warm, open all the windows and keep them open, take medicine to open the bowels freely, and take nourishing food, as milk, eggs, and broth, every four hours.

4. Allow no one else to sleep in the same room. Protect others by sneezing and coughing into cloths which can be boiled or burned.

5. Stay in bed until a doctor tells you it is safe to get up; or, until you have been without fever for at least four days.

What to Do After Recovering From an Attack of Influenza

1. Influenza is a treacherous disease. If one is fortunate enough to escape pneumonia during or immediately following the attack, the lungs and respiratory system are frequently so inflamed that tuberculosis develops. The heart is overworked and needs rest. Therefore, do not return to work or leave home until you have regained your strength, whether it is a week or a month.

2. If complete recovery does not take place within two weeks, have your family physician carefully and thoroughly examine every vital organ and function of the body. Follow instructions the doctor may give you after such an examination.

What to Do After the Epidemic is Over

1. Secure the coöperation of your neighbors in petitioning your County Board of Health to establish a full-time health department in the county to organize the people and teach disease prevention. Every one who has had influenza knows that prevention is better than cure.

2. If you live in a town, in addition to the above, see that your mayor and board of aldermen require soda fountains to use nothing but individual drinking cups, saucers, and sterilized spoons. Also, that moving picture shows have thorough ventilation.

A Last Word

1. Do not become unduly alarmed during the epidemic—use judgment and common sense.

2. Be sure and help those who cannot help themselves. If precautions are taken, it is not dangerous to care for the sick. During an influenza epidemic the dangerous fellow is not the sick-in-bed, but the one who goes about coughing, sneezing, and spitting in a careless manner.

3. Influenza and La Grippe are the same disease.

4. There are no vaccines or serums for influenza.

5. Don't waste your money on patent medicines—they are dangerous.

6. DON'T GIVE INFLUENZA TO OTHERS AND DO NOT LET OTHERS GIVE IT TO YOU.

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FREE PUBLIC HEALTH LITERATURE

The State Board of Health has a limited quantity of literature on health subjects for free distribution. If you are interested in one or more of the following subjects, or want same sent to a friend, write to the State Board of Health for free literature on that particular subject.

WHOOPING-COUGH	CLEAN-UP PLACARDS	MALARIA
HOOKWORM DISEASE	SPITTING PLACARDS	SMALLPOX
PUBLIC HEALTH LAWS	SANITARY PRIVIES	ADENOIDS
TUBERCULOSIS LAWS	RESIDENTIAL SEWAGE	MEASLES
TUBERCULOSIS	DISPOSAL PLANTS	GERMAN MEASLES
SCARLET FEVER	EYES	TYPHOID FEVER
INFANTILE PARALYSIS	FLIES	DIPHTHERIA
CARE OF THE BABY	COLDS	PELLAGRA
FLY PLACARDS	TEETH	CONSTIPATION
TYPHOID PLACARDS	CANCER	INDIGESTION
TUBERCULOSIS PLACARDS		

SEX HYGIENE BULLETINS

SET A—FOR YOUNG MEN

A Reasonable Sex Life for Men.
Sexual Hygiene for Young Men.
Vigorous Manhood.
Smash the Line. (The case against the restricted district.)
List of Reliable Pamphlets.

SET B—FOR PUBLIC OFFICIALS AND BUSINESS MEN

Public Health Measures in Relation to Venereal Diseases.
Venereal Diseases—A Sociological Study.
Smash the Line. (The case against the restricted district.)
The Need for Sex Education.
A State-wide Program for Sex Education.
List of Reliable Pamphlets.

SET C—FOR BOYS

Vigorous Manhood. (Especially for boys 12 years of age and over.)
NOTE.—For boys under 12, see "When and How to Tell the Children" (Set D); portions of "Vigorous Manhood" also may be read to younger boys. Boys 15 years and over may be given Bulletin "A Reasonable Sex Life for Men" (see Set A), at the discretion of the parent.

Sexual Hygiene for Young Men.
List of Reliable Pamphlets.

Any of the above will be sent without charge. Please send for only those bulletins for which you have definite use.

SET D—FOR PARENTS

When and How to Tell the Children.
Venereal Diseases—A Sociologic Study.
The Need for Sex Education.
List of Reliable Pamphlets.

SET E—FOR GIRLS AND YOUNG WOMEN YOUR COUNTRY NEEDS YOU. (Especially for girls 11 years of age and over.)

NOTE.—For girls under 11, see "When and How to Tell the Children" (Set D); portions of "Your Country Needs You" also may be read to younger girls. Girls 15 and over may be given "The Nation's Call to Young Women," at the discretion of the parent.
The Nation's Call to Young Women.
List of Reliable Pamphlets.

SET F—FOR TEACHERS

The School Teacher and Sex Education.
Sex Education in the Home and High School.
Venereal Diseases—A Sociologic Study.
Smash the Line.
The Need for Sex Education.



The Health Bulletin

Published by THE NORTH CAROLINA STATE BOARD of HEALTH

This Bulletin will be sent free to any citizen of the State upon request.

Entered as second-class matter at Postoffice at Raleigh, N. C., under Act of July 16, 1894.

Published monthly at the office of the Secretary of the Board, Raleigh, N. C.

Vol. XXXIV

DECEMBER, 1918

No. 6

UNIVERSAL MEMBERSHIP THE GOAL OF THE RED CROSS CHRISTMAS ROLL CALL

LARGE MEMBERSHIP MEANS MORE THAN MONEY

The aim and underlying purpose of this campaign is to recruit under the banner of the Red Cross every loyal American, no matter where he or she may live.

The object of the RED CROSS CHRISTMAS ROLL CALL is to register in terms of active participation the spirit of a nation. The spirit in question is personified in Red Cross membership.

THE DATE—DECEMBER 16-23

The week of December 16-23 has been set for the RED CROSS CHRISTMAS ROLL CALL. It seems peculiarly appropriate to have this ROLL CALL during the second Christmas season of the United States in the war—it should serve as a fitting climax to such an eventful twelve months.

THE KEYNOTE

Universal Membership has been chosen as the keynote of the RED CROSS CHRISTMAS ROLL CALL. This thought was expressed by President Wilson when, on the occasion of his address last May he said: "I summon you to the comradeship." In this appeal the President of the Red Cross, himself, has sounded the clarion call to every good American to enroll as a member of the American Red Cross.

The important thing for the reader to do is to see the Chairman of the Campaign Committee of his Local Chapter, become enrolled himself, then volunteer his services for the week's campaign.

THE Health Bulletin



PUBLISHED BY THE NORTH CAROLINA STATE BOARD OF HEALTH

Vol. XXXIV

DECEMBER, 1918

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EDITORIAL

LIBRARIES AND PRIVIES

See if you can recognize the county which should be most concerned about this little story. You will never know the man who made the remark which caused it to be printed, so don't try to guess; you might injure an innocent friend of the cause.

It all happened in this way: The writer was asked recently to take part in a little conference. The work of one or more public men in each county in the State was up for discussion. When the name of a certain county was mentioned, a big rich county, whose school system is well known in the State, the chairman of the meeting suggested that the name of one of the school officials of this county be passed over and another man be asked to perform the duty in question. Pressed for a reason, the chairman stated that the school official was a supporter of the patent medicine interests. The writer concurred in the chairman's observation for the following reason:

From April 15th to September 20th he has visited twenty-eight Teachers' Institutes, representing thirty-seven counties. At each meeting of teachers a "hand primary" was held and a vote taken on the question of "How many teachers taught the past year in a school provided with a privy, either sanitary or otherwise, for both sexes"; of sixty teachers present at the institute held in the county referred to above, all had taught in the county,

and at only *three* schoolhouses was there a *privy* of any description for either sex! The sorriest showing made by any county visited from Washington to Polk, or from Brunswick to Mitchell! Whereupon another member of the conference remarked with a great deal of feeling, "Yes, but you found libraries." This from a noted educator graphically describes the mightiest obstacle to public health progress in North Carolina.

Sixty libraries full of the records of Heroes of Ancient Mythology, and three privies, representing the most elemental step in the advance from savagery to civilization. From the standpoint of culture and refinement, to say nothing of the dissemination of typhoid fever, tuberculosis, hookworm, etc., had you ever pictured the spectacle of your young lady teacher at the Bearskin Creek High School having to lay down her copy of "Evangeline" and wander around in the rain for half a mile seeking a gallberry bush or a high rock in order to answer a call of Nature. That is exactly the state of affairs in more than 75 per cent of the public schools in North Carolina outside the towns and villages.

Conditions will not improve until our leaders and school patrons develop a "privy sense" along with a "library sense."

By all means let us continue to build and equip libraries until every school, small and large, in the State is the possessor of a good one. But for the

sake of consistency and safety, let's make it two to one, "Two sanitary toilets to one library" in every school. Ask your lady teacher which she would prefer being first provided.

G. M. C.

RED CROSS CHRISTMAS ROLL CALL

As announced in the last BULLETIN, there will be no Red Cross Seal sale this year. But all our organizations, state and local, will join with the Red Cross in its universal enrollment of members in our state. A like arrangement exists in every other state.

The American Red Cross recognizes the importance of the fight against tuberculosis in the most emphatic way possible, that is, by using its funds by the millions in France and other European countries. It recognizes the importance of the Red Cross Seal Campaign which it has fostered from its inception to the present time.

Our Government recognizes the importance of the fight against tuberculosis, (a) by taking more care to exclude tuberculosis men from the army than any other nation in the world has ever done; (b) by providing for all, in one way or another, who are found infected with tuberculosis, having spent perhaps more than two million dollars in our own state in providing sanatoria for their treatment.

Our Government also recognizes the value of the Red Cross Seal in the fight against tuberculosis, but it was not thought wise to have too many campaigns, so after consultation between officials of the National Tuberculosis Association, the American Red Cross and our Government at Washington, including President Wilson, it was decided to combine the Red Cross Seal Campaign with the Red Cross Christmas Roll—December 15th to 25th and it was further decided that the American Red Cross would appropriate

to the National Tuberculosis Association \$2,500,000, and the National Association would make appropriations to State Associations, which in turn would make appropriations to State Associations, which in turn would make appropriations to local associations. It was also decided that the Red Cross would present to each new member and renewal a packet containing 10 Red Cross Seals and a folder on the prevention of tuberculosis.

Now, let all Red Cross Seal workers, all persons interested in the fight against tuberculosis, all persons who are interested in seeing our boys "over there" have the attention that no organization but the American Red Cross can give, all who are interested in seeing relief extended, in the rehabilitation of the European countries after the war as no other organization can extend it, come up and pay your dollar and enroll as a member of the American Red Cross and make this Christmas enrollment universal in fact. See the campaign chairman of your chapter and volunteer your services—also volunteer your dollar and be enrolled. Get the idea—*Universal Enrollment*.

L. B. McB.

A NEW NECESSITY FOR FOOD CONSERVATION

The great Allied successes in France and Belgium will make it necessary for the United States to supply a greater amount of food to Europe during the present winter than ever before. Many thousands of people have been rescued from German bondage and these must be fed. Then, too, our army which has given the great Foch reserves and made such brilliant successes possible has more than two million men in France. And these soldiers must be well fed—in fact, they must have the best of everything it is possible to send them. In order to utilize shipping space to the best possible advantage we must

send concentrated food, especially wheat and protein foods. To provide this food for such an army and such a large civilian population, it is necessary that we at home conserve as we have never done before. In the past we have used too much protein food for our good; and at present we can conserve and be patriotic and at the same time benefit our health. The article on diet in the Personal Hygiene Section explains the details of the problem.

B. E. W.

PROFITEERING IN VITAL
NECESSITIES
OR
OVERCHARGING FOR ANTITOXIN

The following correspondence between certain parties and the State Board of Health with respect to the price of diphtheria antitoxin is possibly of general interest and may assist in making diphtheria antitoxin more readily available:

Secretary of North Carolina State Board of Health.

DEAR SIR:—I am writing in regard to price of antitoxin. My six-year-old daughter had diphtheria. We are in quarantine. In reading Bulletin No. 107, I saw price of the 5,000 unit was \$1.95. I had to give eight dollars for 5,000 units at our nearest drug store, Yanceyville, N. C. I want to know if there is any law to do anything with a druggist for selling it at this price. If there is anything I can do, please write me at once.

Respectfully,

MY DEAR MADAM:—Your recent letter is one that interests me very much, and but for the unusual pressure of work incident to the epidemic, would have received an immediate reply.

You paid the druggist \$8 for a package of 5,000 units of diphtheria antitoxin. That \$8 was divided between the manufacturer and the druggist, the manufacturer receiving 60 per cent, or \$4.80, and the druggist receiving 40 per cent, or \$3.20. If the interest of the druggist in people was slightly

greater and his interest in money slightly less, he would have sold you 5,000 units of antitoxin every whit as effective as what he sold you—antitoxin the efficiency and strength of which was vouched for by both the State and Federal Departments of Health—for \$1.95, and of this amount he would have been allowed to retain 40 cents as a fair profit. The poor fellow just could not afford to lose the other \$2.71. It was too easy.

You must not conclude that the druggist from whom you bought this antitoxin is a representative druggist. He is an exception. The druggists as a class are public-spirited, recognizing readily and discharging gladly those responsibilities and duties relating to public health that rest peculiarly upon druggists. To see that the public have reliable diphtheria antitoxin within easy financial reach of all, rich and poor alike, is one of their professional responsibilities that the majority of druggists gladly admit.

If the chairman of your board of county commissioners, who is also the chairman of your county board of health, was as alert to the public health interests of the county as he ought to be, and as his official responsibilities demand that he should be, you would have gotten your antitoxin for 25 cents and would have saved \$7.75. The chairman of your board of county commissioners is the dominant influence on your county board of health. Your county board of health selects the county physician and county quarantine officer. It is the duty of the county physician and county quarantine officer to see that the state antitoxin, which is available to the public at 25 cents per package regardless of the size of the package (the charge of 25 cents being made to cover the wrapper, the boxing, and the syringe in which the antitoxin is contained), is (1) placed in suitable, convenient depositories in the county, and (2) that the people of the county are made aware of the facilities for securing this antitoxin. If the county physician is as interested in looking after the people's health as he should be, he will find ways and means for transforming his interest into practical uses. But do not blame the county physician if this is not done. You cannot vote for or against the county physician; he does not hold an elective office; he is appointed by the county board of health. On the other

hand, you do vote for the chairman of your board of county commissioners (who is the chairman of your county board of health); you can hold him responsible at the polls.

Very truly yours,

W. S. RANKIN,
Secretary.

Dr. W. S. RANKIN,

Raleigh, N. C.

DEAR DOCTOR:—I am sending herewith a wrapper from a package of antitoxin, and would like to know if the dealers have a right to sell this product at a price higher than that placed by the manufacturers.

The manufacturers' price and that of one of our dealers are both on the wrapper. It seems to me that it is a case of profiteering, which should be looked into if there is any way to get at these fellows.

Will you please give me your opinion of the matter, and greatly oblige

Yours very truly,

DEAR DOCTOR:—Your letter of October 31st. with the enclosed wrapper of a 5,000 unit package of diphtheria antitoxin from the Biological Laboratories of Parke, Davis & Company, is received. I note that on the package the manufacturer fixes and prints the retail price at \$2. I also note on the opposite side of the package the retailer's price of \$3. If the retailer had sold this antitoxin for \$2 he would have made a profit of 50 cents and returned to the manufacturer \$1.50. In selling the package of antitoxin for \$3 he made his legitimate profit of 50 cents and an additional profit of \$1, so that the \$3 received was divided equally, \$1.50 each, between the druggist and the manufacturer.

Now as to the rights of the druggist: You refer to his legal rights. He had a legal right to sell the antitoxin for \$3. No court of law can reach him. On the other hand, this druggist has no moral right to capitalize the confidence or the ignorance or the necessity of his customer by charging him such a price for antitoxin. There is no community in North Carolina with a public conscience, with a public conception of right and wrong, so stunted or stupid as not to be as disagreeable, if focused on this fellow, as is the sunlight to a bat.

I have dealt so fully with the cost of antitoxin in a letter to another correspondent that I am taking the liberty

of enclosing a copy of this letter as a supplementary reply to yours.

Very truly yours,
W. S. RANKIN, *Secretary.*

TUBERCULOSIS COMMISSION TO ITALY FINANCED BY THE AMERICAN RED CROSS

At the request of the Italian Government, a commission on tuberculosis, under the American Red Cross, is being sent to Italy to undertake work in connection with the various Italian organizations in the field of prevention of tuberculosis for educational, dispensary and sanatorium methods.

Dr. Wm. Charles White, of Pittsburgh, is director of this commission; Dr. R. H. Bickett, Jr., of Cleveland, is assistant director. Miss Mary S. Gardner, of Providence, R. I., goes with the commission in charge of the various nursing problems presented by the agencies of the country at war. Miss Foley, of Chicago, may later go as assistant chief to Miss Gardner. It is understood that the American Red Cross has appropriated a million two hundred thousand dollars as a first appropriation for this tuberculosis work in Italy.

TUBERCULOSIS VERSUS WAR

Dr. Livingston Farrand, who has just returned to France to continue the fight against tuberculosis, made the statement that tuberculosis has killed as many people during the four years of war as have been killed in battle.

Like the Germans, it is no respecter of persons—it kills the baby at the mother's breast; it kills the mother with the baby at her breast. Dr. Farrand says if the people of America would throw themselves into the winning of the war against tuberculosis with the same zeal with which they have hurled themselves against the Hun, the victory over tuberculosis would be assured and the cost in money and in sacrifice would be infinitely less.

Dr. Farrand is the head of the American Tuberculosis Commission to France and has one million dollars at his disposal and as much more as he can use. The Commission is financed by the Rockefeller Foundation. Mr. Warren H. Booker, formerly Chief of the Bureau of Education and Engineering, and Editor of this BULLETIN, is with Dr. Farrand.



PUBLIC HEALTH AND SANITATION



Edited by Dr. W. S. RANKIN

SYPHILIS

(Also Called Lues and the Pox)

The Cause of Syphilis

Syphilis is caused by a small germ called the treponema pallidum or the spirochaeta pallida. The germ is not of a vegetable nature as are most disease germs, but of an animal nature. It is about 1-3000 of an inch in length and is spiral shaped.

The treponema or spirochaeta are always present in the lesions or sores of syphilis, and are found nowhere else in nature. If a discharge from the sore or a part of the diseased flesh is inoculated into a monkey, the disease is reproduced and the germ may be recovered from the diseased parts of the monkey.

The treponema dies rapidly when dried, or when exposed to only slight changes in temperature. In this respect it resembles the germ that causes gonorrhea, being restricted in its life cycle to conditions that are almost limited to the human body.

Mode of Infection

On account of the treponema requiring warmth and moisture, the germ of syphilis cannot be air borne, neither can the infection be transmitted by infected things, unless the interval between the contamination of the article and the transference of the infected material to a susceptible person is very short.

The rule in syphilis, as in venereal diseases generally, is infection by direct personal contact. Ninety per cent of the initial sores in syphilis are genital in location, and as the initial sore always occurs at the point of infection, the evidence is absolute that nine out of every ten cases of syphilis are contracted through sexual intercourse.

There remains, therefore, about ten per cent of syphilis that is not genital. Of this ten per cent of extra-genital syphilis, in half of it, or about five per

cent of all syphilis, the chancre marking the site of infection appears about the mouth or in the mouth, demonstrating infection by either (a) acts of kissing, or (b) the use of a drinking glass or a dipper infected shortly before by the saliva of a syphilitic person. Right here it may be well to note that a drinking glass or dipper has been shown to remain infectious thirty minutes after being used by a syphilitic person. The remainder of the ten per cent of extra-genital syphilis, or about five per cent of all syphilis, is divided: (a) Cases of syphilis contracted by physicians and nurses in handling the disease or in examining or operating on persons with known or unknown syphilis; (b) cases of syphilis contracted by wet nurses who nurse babies with unsuspected inherited syphilis; (c) cases of syphilis contracted by being shaved by a barber whose razor or brush becomes infected from a syphilitic patron; (d) cases contracted by persons who are vaccinated with vaccine taken from the arm of a syphilitic person. As vaccine is now made of lymph from the calf instead of pus from the sore of some person's arm, syphilis is practically never conveyed in this way.

Symptoms of Syphilis

There is no disease that presents in its symptoms so many and such varied appearances as syphilis. This fact has been well expressed by some authority on the science of disease in the saying that he who knows syphilis knows all pathology, meaning, of course, that the disease may resemble in its appearance any other disease. It may be so mild as to go unsuspected through a long life, or unsuspected until some sudden snap in the vital machinery—an apoplexy or ruptured blood vessel—reveals and terminates its work. On the other

land, it may come with all the acute severity and outbursts of symptoms that mark the onset of a malignant case of smallpox. For these reasons it will be best to describe a typical case of syphilis and then to call attention to the more important variations in the disease picture. In a typical case of syphilis, running its natural course untreated or imperfectly treated, the symptoms of the disease are divided into three stages, the primary, the secondary, and the tertiary stages.

The Primary Stage or Chancre.—Within from fifteen to forty-two days, usually about thirty days after infection, and at the point where the infection has taken place, there develops a small, painless, only slightly sensitive, hard, button-shaped swelling just beneath the skin. After a few days the skin covering this nodule sloughs off so that we have a small saucer-shaped ulcer. This is the chancre, the most characteristic symptom or lesion of syphilis. The chancre persists for a month or six or eight weeks, and gradually heals.

The Secondary Stage of Syphilis.—*Swelling of the lymph glands* or the formation of kernels in that portion of the body nearest the chancre characterizes the beginning of the secondary stage. In genital chancre, the glands first involved are those of the groins. In extra-genital chancre, those about the mouth or lips, the first glands to become enlarged are those in the neck. The enlargement of the lymph glands does not long remain localized or restricted, but rapidly extends to the lymph glands of the entire body. This enlargement of the lymph glands (the lymph glands are the filter system of the body) is coincident with and indicates the transition of the local syphilitic infection, the chancre, to a constitutional disease or an infection of the entire body with the syphilitic germ.

Fever in variable amount, usually ranging from one to two degrees, accompanies the enlargement of the lymph glands. The fever of syphilis may be very irregular, like that which occurs with late consumption or with blood poisoning; it may be continuous with slight interruption, rarely falling to normal, like the fever that goes with typhoid; or, again, it may be remittent, falling at regular periods to normal and then rising again, resembling in this way the fever that is associated with malaria.

Eruptions, perhaps the most characteristic symptom of secondary syphilis, usually follow close upon the glandular enlargement and the fever. Syphilitic eruptions, like the other symptoms of the disease, vary in profusion, in location, and in form, but as a rule they occur upon the chest, the abdomen, the front of the arms, and the face, not infrequently appearing in the palms of the hands and the sole of the feet. The most characteristic eruption is made up of little round or oval spots, reddish brown in color and without elevation—an eruption that may be seen but not felt. This eruption usually occurs on the chest and abdomen. In other cases, the eruption appears in the form of little elevations or papules, which are usually grouped or bunched and not evenly distributed. In other instances the eruption consists of little pustules, that is, small elevations with pus in them, and in still other cases the eruption is in the form of little elevated crusts appearing in spots about over the skin. Not all skin diseases are syphilis, but about 30 per cent of all the work of the skin specialists has to do with syphilitic eruptions.

Anemia, that is, paleness due to the destruction of the red blood corpuscles by the syphilitic poison, is associated with the above symptoms. The amount of blood destruction, or anemia, varies considerably in different cases. The complexion of the syphilitic is muddy and pasty.

Mucous patches constitute one of the most characteristic symptoms of the secondary stage of syphilis. The mucous patches are not only important as a symptom of syphilis, but are far more important as the infectious lesions of syphilis. The mucous patches are small wart-like, flat-topped, grayish-white elevations occurring on the mucous membrane of the lips, of the mouth and tongue, and on moist or damp portions of the skin, especially the skin in the genital regions. The germs of syphilis abound in all skin eruptions of the disease, but so long as the skin remains unbroken, the germs are not set free and from such sores the disease cannot be contracted, but the moist mucous patch with its sodden, oozing top permits the syphilitic germ to pass out upon the surface of the skin and from this infectious surface to any susceptible person with which it comes in contact.

Bone pains, usually occurring in the

shins, the collar bones, and the forehead, are, in many cases of syphilis, annoying symptoms.

Eye and ear affections, interfering very greatly with the function of these special senses, are important markings of the secondary stage of the disease.

The Tertiary Stage.—After syphilis has lasted from eighteen months to two and one-half years, the syphilitic is prone to suffer from *gumma*. The gumma is a small tumor varying in size from a pea to an egg, hard, grayish-white when opened. It may be located almost anywhere in the body. The symptoms resulting from gumma or gummas (a person may have a number of gummas at the same time) depend naturally upon the location and the size of the gumma. A gumma located in the skin after it has developed to some size may break down into a ragged, ugly, offensive ulcer. Located in the bones, particularly the bones of the face, a gumma may produce marked deformities, as, for example, the destruction of the bones of the nose or the bones of the hard palate, causing the falling in of the nose, or, where the palate is destroyed, interfering with natural swallowing and with the voice. If the gumma is located in more vital organs, as in the heart, or brain, or spinal cord, the gravity of the disease is very great, and not infrequently death results. Along with the gumma which marks the tertiary stage of syphilis, the skin eruptions tend to become more ulcerative in character.

Atypical Syphilis.—As we have already indicated, probably the most important thing for one to remember about the appearance of syphilis is the extraordinary variation from the ordinary course of the disease. A person may go through life and never know that he has syphilis, unless it is discovered by a blood test made in the course of a general examination. Another person with syphilis may come down with all the acute symptoms of a case of smallpox and may even be sent to a smallpox hospital. Another case of syphilis may resemble tuberculosis; another, malaria; another, a brain tumor; another, a cancer of the liver, and so on in accordance with the statement made above that this disease may resemble almost any other disease. The initial lesion of syphilis, or the chancre, may be so slight or may be so located as not to be discovered by the victim. The chance does not always ulcerate.

It may be located in the urethra or genital canal, and not visible. All of the symptoms that mark the typical secondary stage of syphilis may be so slight as not to be recognized. The gumma may be small, may be few in number, and may miss vital locations. While, therefore, it is important to remember the typical disease picture in syphilis, it is equally important for one to remember the atypical, the unusual ways in which this disease makes its appearance.

Course of Syphilis

The course of syphilis depends *absolutely* upon its treatment. On the one hand, syphilis may be quickly and completely subdued and cured, and on the other hand the disease may last from five to ten or twenty years before the death of its victim, and in this time involve friends, wife and children. The difference depends altogether on the *promptness* with which the syphilitic applies for treatment and the *faithfulness* with which he carries it out. We shall now describe the course of syphilis properly treated.

Syphilis Properly Treated.—Syphilis treated in the early primary stage, shortly after the appearance of the chancre, and, therefore, before the germs invade the entire body, offers the golden opportunity in dealing with this disease. One hundred per cent of such patients are curable. After the primary stage is passed, and after the secondary stage is begun, that is, after the germs have invaded the entire system, possibly not more than 90 per cent of the cases are curable. In the first six months of this disease, treatment delayed days means cure delayed months; moreover, the longer the treatment is delayed, the less the probability of a complete cure. But treatment must not only be given promptly; it must be given effectively and be persistently carried out by the patient, otherwise the fact that the disease is curable does not mean that it will be cured.

Here is the treatment of a person who, immediately after discovering the chancre, went to a physician for treatment and was cured: The patient applied to a well known, reputable physician, not a druggist nor an advertising quack, within five days after observing the chancre. The physician made a microscopic examination of the secretion or the discharge from the

sore and found the germs of syphilis. He also took a specimen of the blood and sent it to the laboratory of hygiene for the Wasserman test, that is, a test for the presence of syphilis. The physician was very painstaking in his examination, explaining to the patient that a diagnosis of no syphilis when syphilis might be present meant possibly the loss of the opportunity to cure, and certainly longer treatment, greater inconvenience, and heavier expense; whereas, the diagnosis of syphilis meant a long course of treatment which, if syphilis were not present, would be unnecessary; hence the thoroughness of the physician's examination.

On making a positive diagnosis of syphilis, the physician gave the patient three doses of salvarsan (arsphenamin) five days apart, and then five doses of salvarsan (arsphenamin) seven days apart. The arsphenamin was injected into the patient's vein, and while the operation was a matter of some little surgical detail, it caused the patient but little discomfort and inconvenience. The physician giving the salvarsan had taken special training in the administration of the drug. Right here it is necessary to say that the majority of physicians who attempt to treat syphilis do not know how to use salvarsan and cannot use it, and no person with syphilis should trust themselves to such a physician for treatment. There is no authority in medicine that does not hold that salvarsan in the treatment of syphilis is an absolute essential.

Along with the salvarsan, the physician told the patient that it would be necessary for him to use inunctions of mercurial ointment, and that, preferably, the inunctions should be given by the physician himself, unless the patient would take the necessary pains and thoroughly rub in the ointment. The physician also stated to the patient that he could use instead of the mercurial ointment, if it was more convenient to the patient, a hypodermic of mercury, one injection a week for eight weeks. On inquiry, the patient was told that no preparation of mercury taken by the mouth would cure syphilis; that the most that could be expected of mercury given by the mouth was a relief or suppression of the symptoms of the disease, and not a cure.

After the above treatment, which lasted for eight or nine weeks, the patient was allowed to go without

treatment for eight weeks, when he again reported to the physician for a second course of treatment similar to the first. After the second round, he was again allowed to rest ten or twelve weeks without treatment, when a third course of treatment was administered. After the three courses of treatment, six or eight blood tests (Wasserman reactions), taken at intervals of from three to six months apart, failed to show any evidence of the disease, and the physician pronounced the case cured.

Syphilis Improperly Treated.—This means either delayed treatment or interrupted treatment.

Delayed Treatment means the loss of the golden opportunity for curing the disease. It means failure to start the treatment while the infection is restricted to the initial lesion, or chancre. It means waiting before taking the treatment until the germs have broken through the local barrier and distributed themselves throughout every nook and corner of the body. Delayed treatment means the sacrificing of the chances of a 100 per cent for, at most, a 90 per cent cure. The longer the delay in giving the treatment, the greater the uncertainty of cure. Not only is there this uncertainty about a complete cure, but the length of the treatment, and the inconvenience of the treatment, and the cost of the treatment is multiplied many fold.

The causes of delayed treatment are: (1) The syphilitic is ignorant of the meaning of prompt and efficient treatment of this disease; (2) he goes to the wrong man for treatment—to an advertising quack, to some druggist who gives him some mercurial ointment and some pills, or to some doctor who does little more than the druggist, who is not familiar with the modern treatment of the disease and does not use salvarsan; (3) as in gonorrhea, the victim of syphilis hesitates to confide in some reliable, trustworthy physician the fact of his infection, and, for temporary secrecy, throws away the opportunity of permanent cure; (4) the syphilitic does not himself know that he is infected with syphilis, either not knowing the appearance or meaning of a chancre, or, possibly, where the chancre is small and located in the urethra, not recognizing the mark of the disease.

Interrupted Treatment is responsible for the statement of one of the authorities on syphilis to the effect that "al-

most half of all syphilites eventually succumb as a result of their infection." The two principal causes for interrupted treatment are, in order of their importance, (1) ignorance of the true nature of the disease, and (2) real or supposed lack of funds. Patients with interrupted treatment fail to distinguish between symptoms and disease; they think that disappearance of symptoms means disappearance of the disease; they take treatment until all the evidences or symptoms of the disease have disappeared, and perhaps have been absent for sometime, then, contrary to the advice of all authorities and to the urging of their physician (if they have the right kind of physician), they fail to come back for regular treatment and observation.

Concerning this incomplete treatment with the disappearance of symptoms, Doctor Stokes, one of the great authorities on syphilis, says: ". . . symptomatic methods whisk the outward evidences temporarily out of sight, create a false sense of security, and leave the disease to proceed quietly below the surface, to the undoing of its victim. Such patients get an entirely false idea of their condition, and may refuse to believe that they are not really cured, or may have no occasion to wonder whether they are or not until they are beyond help. Every statement that can be made about the danger of syphilis to the public health applies with full force to the symptomatically treated early case. Trifling relapses, highly contagious sores in the mouth, or elsewhere, are not prevented by symptomatic treatment and pass unnoticed the more readily because the patient feels himself secure in what has been done for him. In the first five years of an inefficiently treated infection, and sometimes longer, this danger is a very near and terrible one, to which thousands fall victims every year, and among them, perhaps, some of your friends and mine. Dangerous syphilis is imperfectly treated syphilis, and at all moments it may confront us in our drawing rooms, in the swimming pool, across the counter of the store, or in the milkman, the waitress, the barber. It confronts thousands of wives and children in the person of half-cured fathers, infected nurse-maids, and others intimately associated with their personal life."

Persons with incomplete treatment go along through a course of years, or

even decades, with outcroppings of symptoms followed by another resort to incomplete treatment; then, again, the disease clears up and withdraws itself into the vitals away from the observation and the senses of its victims, only to reappear and withdraw again and again as the patient alternately forgets and recalls his treatment. Some of these people, years after the chance, are found with aneurisms of the arteries, particularly of the large trunk artery leaving the heart, which has resulted from damage to the vessel walls by the syphilitic germ. Along with the dilatation or tumors of the vessels, which tend to become larger and larger until rupture and death, there is usually a degeneration of the arteries in different parts of the body, resulting in arterio-sclerosis or high blood pressure. According to the figures recently given by Doctor Osler, ten out of twelve aneurisms are syphilitic, and three out of every ten cases of arterio-sclerosis are syphilitic. Doctor Osler also gives figures indicating that 1-11 of the organic diseases of the heart (valvular diseases) have their cause in incompletely treated syphilis. Another person who has not faithfully followed his treatment finds, after ten or fifteen years, or even later, that he is gradually developing locomotor ataxia. From one to three per cent of syphilites develop this disease. The best medical opinion holds that practically all locomotor ataxia is syphilitic in origin. Still another syphilitic, who has not persisted in his treatment sooner or later, perhaps years after his initial lesion, at a time, perhaps, when he has forgotten or at a time when his family is maturing, begins to act queer, makes foolish investments, loses his fortune, and a few months later is pronounced to have a form of insanity known as general paresis. Practically every case of general paresis has a syphilitic origin, and not less than ten per cent of all insanity is of this type. One realizes the importance of general paresis as an economic problem on reflecting on the expenditure of \$570,000 a year by the State of North Carolina for the treatment of her insane in three State institutions. If 1-10 of this insanity is traceable to syphilis, the disease costs North Carolina in this one item alone (and all of our insanity is not in our asylums) \$57,000 a year.

Still others develop complications due to gummas, that is, the tumor-like

growths which characterize the third stage of syphilis. The symptoms resulting from the gumma or gummas depend upon the location of the gumma and its size. Gummas located in the brain, or the spinal cord, or the heart, produce rapid and grave symptoms, whereas those located in the skin, or the muscles, or the bone, or the liver, produce symptoms that are not so grave.

Another, and perhaps the most important group of uncured syphilitics, most important if measured by their potentiality for harm, is the incomplete or interrupted treated syphilitic who marries, infects his wife, and becomes the parent of children with inherited syphilis, a form of the disease of such frequency and far-reaching importance as to deserve treatment under a separate heading.

Hereditary Syphilis

Hereditary syphilis occurs in the children of syphilitic parents. The mother is always syphilitic, perhaps ninety-nine times in a hundred acquiring innocent infection from the syphilitic father.

The effect on the product of conception of syphilitic infection through the mother depends upon the stage of the development of the unborn child when infected. The sooner after conception that infection takes place, the less the likelihood of the child's being born. Infection shortly after conception is usually followed by abortion, by which is meant the interruption of pregnancy within the first three months. Infection of the intra-uterine child somewhat later is usually followed by miscarriage, by which is meant the interruption of pregnancy within the second three months. Still later infection of the intra-uterine child is usually followed by premature delivery, by which is meant the interruption of pregnancy during the last three months, but prior to the expiration of the ninth month of pregnancy. Still later infections of the intra-uterine child, or milder infections, may permit the child to be born with either the marks of syphilis upon it, or to be born apparently well only to show the outcroppings of the disease later in life.

Veeder reports 331 pregnancies in 100 syphilitic families; 131, or 40 per cent, died before term; 51, or 15 per cent, died after birth, making a total mortality of 55 per cent; 116, or 35

per cent, are living but syphilitic; and 33, or 10 per cent are living and free of syphilis. So that we may say that in this series only 10 per cent escaped infection." The experience quoted is in line with the experience of others generally. Thus we see that in syphilis race deterioration and race suicide find one of their most important factors.

"Hereditary syphilitic children are filled with the spirochetea, the germs of the disease. They are in every tissue and organ; the child is literally riddled with them. In spite of this it may for a time seem well. The typical syphilitic child, however, is thin, weak and wasted. Syphilis hastens old age even in the strong. It turns the young child into an old man or woman at birth. The skin is wrinkled, the flesh flabby. The face is that of an old man—wizened, pinched, pathetic, with watery, bleary eyes, and snuffling nose. The mother often says that all the baby's troubles started with a bad cold. The disease attacks the throat, and turns the normal robust cry of a healthy infant into a feeble squawk. The belly may become enormously distended from enlargement of the internal organs, and the rest of the child dwindle to a skeleton. The eruptions are only a part of the picture and may be absent, but when they occur, are quite characteristic, as a rule, especially about the mouth and buttocks, and do not usually resemble the commoner skin complaints of infants."

The above description does not apply to syphilitic children that are infected late in pregnancy with a mild form of the disease. Such children are born apparently normal, and there is no suspicion of the disease in many cases until about the age of puberty, from the twelfth to the fifteenth year, when syphilitic manifestations make their appearance, particular in the form of a disease of the eye known as interstitial keratitis.

PERSONAL HYGIENE



Edited by Dr. B. E. WASHBURN

THE DIET FOR EFFICIENCY

In operating an engine the amount of work that can be done depends upon the quality and amount of the fuel burned. The engineer can measure the exact amount of work that his engine can do on a given quantity of fuel. A ton of hard coal will cause the engine to do a certain amount of work. The same amount of soft or bituminous coal will not do as much, because it gives off less heat; and since the fuel value of a ton of wood is still less, the work done will be still less. The same thing is true in the body. It can be determined just how much heat is liberated when a certain kind of food is eaten (burned) and, consequently, the amount of work that it enables the body to perform. In other words, we can determine how many heat units or calories are furnished by an ounce of fat, an ounce of sugar, starch, or protein.

The thing we are concerned with is how best to maintain the body in a condition of health and strength—to establish the highest degree of efficiency—with the least expenditure of energy. When unnecessary (too much) food is eaten there is a loss of energy to the body in handling and getting rid of the surplus. There is an unnecessary "wear and tear" on the digestive and eliminative organs, and the excess which is useless may prove injurious. The ideal diet is the smallest amount of food that will keep the body in a state of continual health; the diet that will give the maximum of energy for the minimum of food.

In previous articles we considered the fact that food has two important uses—to repair the body tissues and to furnish heat and energy. The material for building and repairing the body is furnished by the proteins in the food. If protein food is not supplied in sufficient quantities the body will

not be repaired as fast as it wears out, and a person who continues to eat such a diet for a long time will waste away and die. It is also possible for a person to starve on a diet which does not contain a sufficient amount of proteins.

It has been proven that protein foods (especially meats) are not necessary for muscular work, but that such energy is derived from the fats and carbohydrates, the starch and the sugar of the food. Fats and carbohydrates, which are the fuel foods, do not form muscle, bone, nerve and sinew. They are burned up in the body and only supply heat and energy. They may, however, be stored up for future use, just as fuel for an engine may be stored for future use.

Again, it is not necessary to eat much fat in order to be fat. The body is able to manufacture fat out of carbohydrates (starch foods and sugar). It has been found that the fat which a cow gives out in her milk far exceeds the amount of fat that she eats in her food. An experiment made with some young pigs showed that they stored up more than four times as much fat as was given to them in their food. In the same way some of the carbohydrate food is stored, in the form of glycogen or "animal starch," in the liver and muscles. In this respect the liver seems to act as a kind of savings bank or place of deposit for some of the fuel not needed for immediate use, dealing it out as it is needed in the form of sugar.

Proteins also may be used by the body food for fuel, but this occurs only in case of necessity. People who live in cold climates, in places where there has been a coal famine in the midst of a severe winter, have sometimes had to burn up their furniture for fuel. When that was exhausted they have been known to tear down a part of the house and burn it. It was better to

mutilate the house than to perish with cold. In like manner, when a person is deprived of food, the body first draws on its reserve fuel and burns up its store of fat. When this is used up some of the flesh also has to be consumed in order to maintain enough heat to keep the body alive. In such cases proteins, the building material of the body, are used for fuel. But ordinarily they are not so used.

Another case in which the body is obliged to burn protein is when an excess of protein food is eaten. We have noted the ways in which the body is able to regulate the supply of fuel foods (starch and sugar) to meet its needs, just as a self-regulating furnace controls the supply of coal to the fire. But for the protein food there is no such provision. The protein absorbed into the blood and not needed for immediate use must be burned up in order to get it out of the body. So if the body does not need the protein for repairs it is a bad form of fuel as it leaves behind a residue (called "clinkers" in the engine) which must be disposed of. Fats and carbohydrates used for fuel food leave no ashes. They are changed into carbonic acid gas and water, both of which are easily eliminated, the carbonic acid gas being exhaled through the lungs and the water passes off through the kidneys and the skin. With protein foods, as we have seen, the story is quite different. These become oxidized or burned but yield substances that are not ready for elimination by the kidneys until they have been chemically changed by the liver. These substances, frequently spoken of as tissue toxins (poisons), may circulate through the body and have an injurious effect. When present in large amounts they dull the brain and irritate the nerves and may even be deposited in the tissues and cause hardening of the arteries and premature old age.

You can see that a sufficient amount of protein is absolutely necessary to the body, but that a great excess is very likely to prove harmful. The extra work thrown upon the liver and kidneys may result in serious injury to these organs because of the formation of poisonous waste substances. The body cannot burn protein as completely as it does starch, sugar, and fat, and these latter should be the foods used to supply heat and fuel, body warmth and working energy.

The ideal diet consists of just enough protein (meat) food to build and repair the body and no more. Carbohydrates (starchy and sweet foods) and fats should be used altogether for fuel and heat. Such a diet prevents the accumulation of wastes in the body with the attendant poisoning they produce.

FIRST AID MEDICINE

Fever.—Fever may be due to a number of different causes, but, whatever the cause may be, it is a danger signal that something is quite wrong. This does not mean that one need become panic-stricken if a case of fever has to be cared for. This would not be wise, and yet the possible gravity of fever must not be overlooked.

The skin of a person with fever will probably feel hot to the hands, the eyes will be very bright or perhaps very dull, and the patient may be delirious or excited, or in a stupor. It is always a good plan to take the temperature in every case of illness. This is done with the clinical thermometer, which is like the ordinary thermometer except that it is self-registering. That is to say, the top of the mercury or quicksilver in the tube remains in place after a person's temperature has been taken, so that the height of the temperature may easily be read.

To take the temperature, shake down the mercury to 95 degrees Fahrenheit or below. This is done by holding the thermometer bulb downward in one hand and striking the hand sharply against the other. This will jar the column of the mercury so that it will fall. You had better have your doctor show you how to do this. Wash the thermometer in clean cold water, shaking off the clinging drop. Put it in the patient's mouth, under the tongue, with the lips closed tightly. Leave it for five minutes, after which it can be removed and read. Wash the thermometer in clean, cold water before putting it back in its case. Remember that in fever the temperature is always higher at night, perhaps by two or three degrees, so that a high morning temperature is more serious than the same temperature at night.

The normal temperature is 98.4 degrees Fahrenheit. From that point to 100 degrees at night is slight fever; from 100 degrees Fahrenheit to 102

degrees Fahrenheit is moderate fever, and from 102 degrees to 106 degrees high fever. Still higher temperatures are very uncommon. Children are much more liable to fever from slight colds than are their elders. In any case of fever the place for the sick person is in bed, if possible in a quiet, dark room. The patient should be lightly covered. He may be bathed in cool water. The food should be very simple; milk or a little milk toast will be all that is required. Plenty of cool water is necessary. The best medicine is a good dose of castor oil or a Seidlitz powder. Don't think of giving any of the patent medicines for fever. Most such remedies contain dangerous coal-tar products which weaken the heart. In high fever a doctor is needed at once. This is also true in moderate fever, if it does not fall in the morning or goes up again on the second night. Slight fever, if persistent, may indicate something dangerously wrong.

A word of warning should be said in regard to the use of the clinical thermometer. It is a good tool if properly used, and a poor one if used without intelligence. Probably no doctor is without patients who are regular thermometer cranks. Such people take their own or other people's temperature at all hours of the day or night, and make themselves and every one around them miserable if they discover the slightest rise of temperature. The best way is to take the temperature in every case of illness, and then to call the doctor if there is a considerable rise of temperature, or if the temperature remains elevated for a couple of days. Afterwards be guided by the doctor's advice. The subject is too complicated for any general rules.

Colds and Coughs.—Probably the ordinary cold is the commonest sickness. Colds may be prevented by not sitting in a draft, especially when heated by exercise; by changing wet clothing or shoes as soon as possible and taking a hot bath; by wearing sufficient clothing in cold weather; and by not chang-

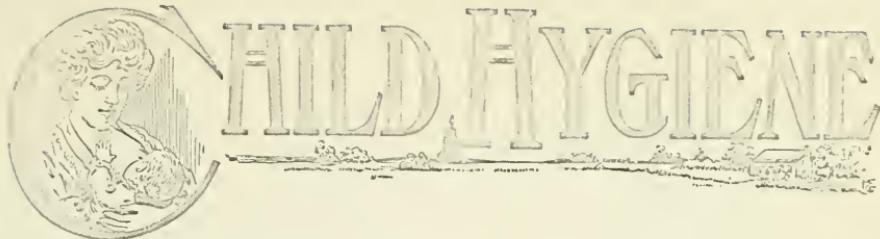
ing till the weather becomes settled in the spring.

In order to break up a cold it is well to take a hot bath at night and get into bed immediately. In order to cause free perspiration an extra blanket should be put on the bed and a large glass of hot lemonade drank after getting into bed. Castor oil or a Seidlitz powder should be taken, just as in fever; and as in fever, the food should be very light and simple—milk and toast. As long as fever is present the person sick with a cold should not be allowed to get out of bed. If the fever keeps up, if the cough is severe, or if there is much difficulty in breathing, a doctor's services should be secured, for there may be danger of pneumonia, tuberculosis, measles, or other diseases. Any one with a cold had best be kept in one room continually, as moving from room to room with changes of temperature is likely to make the cold worse. Continued cough, with fever and loss of weight, very likely shows the beginning of tuberculosis. No delay should be permitted to occur in obtaining a physician's advice. Tuberculosis is curable in the early stages.

Cough medicines may be readily purchased, but that does not make them any less dangerous. Most of them depend for their quieting effect upon the cough on some preparation of opium. They are among the commonest causes of the opium or morphine habit. Snuffs and other preparations for cold in the head too often contain cocaine and in using them one risks forming a habit worse, if possible, than the opium habit.

Sore Throat.—Of course this often exists together with a cold, or it may occur separately. The treatment is the same as for a cold. In addition, a chlorate of potash tablet may be allowed to dissolve slowly in the mouth every three hours. It will soothe the throat. A sore throat, with great weakness or high fever, may mean diphtheria or some other severe infection. These, of course, require a doctor's care.

25c. ANYWHERE IN NORTH CAROLINA, THE
PRICE OF DIPHTHERIA ANTITOXIN. IF YOU ARE
CHARGED MORE THAN THIS FOR ANTITOXIN,
WRITE THE STATE BOARD OF HEALTH
FOR AN EXPLANATION



Edited by Dr. G. M. COOPER

FREE DENTAL CLINICS

The State Board of Health Institutes Free Traveling Dental Service for Rural School Children

One day, about five years ago, the writer was finishing the examination of the thirty children in a small one-teacher school, when a mother of four children present, ranging in age from 6 to 14 years, and every one seriously needing dental treatment, made this casual remark: "If the county thinks it necessary to have a doctor examine our children for defects, then why is it not more important for it (the county) to send a doctor and a dentist around to give the necessary treatment, especially for us who are not able to have it done otherwise."

Close questioning of that woman revealed the fact that her husband was working at a sawmill at \$50 per month, the nearest dentist was Wilmington or Clinton, each more than thirty miles distance. The dental work necessary would have cost for the four children at least twenty-five dollars.

Then and there the writer conceived his first vision of a traveling dental service for rural school children. By rural, meaning those far from a dentist and actually living in the country as we mean country here in North Carolina, where a village of a hundred is right much town.

On July 10th, 1918, after many months of work on details and plans, and with considerable misgivings, this work was actually begun by the State Board of Health.

This article is a resumé of results achieved in this first effort covering fourteen weeks in all, and until the clinics were stopped in Wilson County on account of the appearance of an epidemic of influenza.

Work Educational

The prime object of the work is, of course, educational. The preference

was given to children between six and twelve years of age, and in some of the sections worked, restricted entirely to children under ten years old.

The idea is two-fold, to teach the very small children practical care of the teeth, getting them to form the habit of regular visits to the dentist; and, second, by filling or other treatment, preserve the child's teeth until past puberty when they will be able to realize the importance of dental care.

The actual treatment given was of course limited in class to simple necessity, but included permanent "white" fillings in permanent teeth decayed, cleaning, extracting and careful treatment of temporary teeth when possible. Emphasis was given on cleaning the teeth, use of the brush, and teaching the child and his parent something of the care of the teeth.

First Step After Medical Inspection

The plan as developed is simply an integral part of the follow-up work of medical inspection of school children. One of the two chief objects of medical inspection of schools is to find the defective children and have them treated. This plan is logical and from the standpoint of the dentists is strictly ethical. The plan, before beginning, had the endorsement of the North Carolina Dental Society in the language of the following resolution introduced by Dr. J. Martin Fleming, President of the State Board of Dental Examiners, at the regular meeting of State Society at Wrightsville, June 20, 1918:

Resolution. Resolved that the North Carolina Dental Society heartily endorse the plan of the State Board of Health, as outlined by Dr. Cooper, and that we pledge him the loyal support of this Society.

This resolution was unanimously adopted by the Society.

Of about four hundred dentists in North Carolina, about three hundred and forty are members in good standing of their State Society.

Six Dentists Employed

Five dentists were employed for their whole time, beginning July 10th, and in Guilford County a local dentist was employed for three days of each week. Each dentist was provided with a portable outfit, including a McConnell folding chair. The Guilford County dentist was instructed to do everything necessary for each child reporting, exactly as he would in his own office; the same instructions were given to the dentist doing the Erlanger Mill work at Lexington, whose manager generously paid one-half the expenses, the State Board of Health paying the other half. That accounts for the expense per capita, noted below, being greater for Guilford and Erlanger. In the other work, the emphasis was placed on the educational feature, and on account of the large attendance, only one permanent tooth was filled for each child in many cases, the child being referred to local private dentists for balance of work. Dentists in several towns have reported being almost swamped with demands for children's work following the public clinics.

Number Children Treated and Cost Per Child

County	No. Children Treated	Cost Each
Robeson	1,421	30 cents
Forsyth	742	34 cents
Lenoir	389	38 cents
Davidson	986	52 cents
Caldwell	457	59 cents
Nash	605	62 cents
Northampton	563	83 cents
Wilson	334	-- cents
Erlanger Mills (Lexington)	152	85 cents
Guilford	362	\$1.10

1. 212 dispensaries were held.
2. 6,071 children received free treatment.
3. More than 100 lectures on oral hygiene were given.
4. Total cost about \$3,100 (estimating cost of Wilson County work, which was interrupted and no bills paid to date).
5. Discounting the educational feature of the clinics entirely, and basing the cost on a most conservative estimate comparing with local dentists in each locality, the work cost about 27 per cent of what the same class of

treatment would have cost in private offices.

6. Nine-tenths of the patients were very young children whom most dentists do not like to treat; and at least 96 per cent of them had never visited a dentist before.

7. Equipment of the very best quality, including the best Ritter chairs and electric engines, is already on the ground for a permanent free infirmary in Salisbury and Kinston, and funds in hand for the same for Winston-Salem. These infirmaries will be open to city and county school children under twelve years of age.

8. The funds for providing this work for Guilford and Caldwell counties were obtained by the counties paying half the cost and the State Board of Health the other half.

9. The cost in the remaining seven counties was divided between the county, the State Board of Health, and the International Health Board.

Conclusions

1. A careful record of each of these six thousand children revealed the fact that at least 75 per cent of them had decay in one or more six-year, or permanent, molars.

2. Very few children or their parents were discovered who knew that the six-year molars are permanent teeth. Many of the parents wanted to argue the contrary to the dentists.

3. The way to do the work is by salaried young dentists of the highest type and training, employed, paid, and directed by the State Board of Health.

4. The time to do the work is while the schools are in session.

5. The place to do the work is at the schoolhouse.

6. Everything necessary should be done for all the child's teeth, except gold fillings, treating of diseased pulps, etc.

7. All of the above can be provided for every child in every school district in the State every year at a cost not exceeding one dollar each.

8. One of the most necessary requisites for the success of such work is a whole-time health officer and a well organized health department.



The

The Health Bulletin

Published by THE NORTH CAROLINA STATE BOARD OF HEALTH

This Bulletin will be sent free to any citizen of the State upon request.

Entered as second-class matter at Postoffice at Raleigh, N. C., under Act of July 16, 1894.

Published monthly at the office of the Secretary of the Board, Raleigh, N. C.

Vol. XXXIV

JANUARY, 1919

No. 7

EDITORIAL

ALLEGORICALLY SPEAKING

Now there are some folks who do not believe in prophets and visions, much they read in the papers, and some things they see with their own eyes. Then, there are others who have imagination and the gift of vision, who understand the drift of life and recognize what is true and what is false. If you belong to the first class you are advised to pass on to the next article if your time is of any value. If you belong to the second class you are invited to read.

It was 1918, and it was Hell, and it was the Devil! Let's make it plain. It was His Satanic Majesty with the cloven hoofs and the spiked tail, not a hunnish impersonation or a food grafter or a rent raiser, but the real old boy himself. And it was the Hell we were told about in the days of our youth, with fire and brimstone and seven times hotter, etc.—the bad place itself. The date needs no explanation.

The Devil was in a dilemma and was faced by a kind of paradox. He was mad as hell because things had become quiet as hell and there were prospects that he would have to work like hell to start something new. After resting for four years he hated to work like the devil (he was) but "something must be done," he soliloquized. "My chief aide, old Bill Ho-

henzollern, is on his last legs and the jig is about up with the Huns. Let me think! War is in disrepute and I fear we have had too much of it. An earthquake! Phew! Too tame after what has passed since 1914. Let me think!

"Yes! I have it! Why didn't I think of it sooner? An epidemic. But, what disease? Curse science—smallpox, yellow fever, and my other standbys have been put out of business. What will it be? There hasn't been a successful epidemic since—let me look at my notebook—since 1889-1890. It was influenza then. Spread by swapping spit. Times have changed. It might not work now. Let me see! We now have soda fountains and dirty, unwashed glasses. Excellent! And travel is congested—everybody wants to go somewhere else—and trains are not properly ventilated and are usually dirty. Fine! Then there are picture shows and theatres—and a sneeze means something in these places. I believe to my soul (if I had one) that another epidemic would succeed! We'll try it, anyway."

Six months had passed and his Satanic Majesty was reviewing his work. The epidemic had started in Spain and then spread over Europe. But, it could not be considered a great success. The medical corps of the armies combatted

it and required isolation of patients, caused face masks to be worn by all persons going into crowds, and had made a vaccine to use as a prophylactic. And, the same precautions were enforced among the civil population. So, while the epidemic had been bad it had not been serious and the Devil was worried. And, to add to his worries, Bill Hohenzollern and the Huns were being defeated. It was too much for the Old Boy and he scratched his head and yawned and said "Oh, Hell!"

Something must be done and that at once. He thought of Shylock's insatiable greed and inhumanity and called him into consultation. It didn't take Shylock long to suggest that the epidemic would succeed in America. "Why in America the folks don't know what war is and have never faced real disaster. They can't meet an emergency and great harm can be done before they can organize. And Americans just dote on personal liberty, which they have fostered so much that it has run to seed in many places. And they do love the money! Take the influenza there. They won't consent to restrictions which cause a loss of money.

Shylock was entrusted with the job, but it was not the success it was expected to be. The war had taught the lesson of coöperation, and the people soon organized. The suffering was great and the toll of lives was unprecedented, but it was checked too soon. The strong quickly banded themselves together and took care of the weak, the rich contributed to the care of the poor, and all were proud to realize what they could do and had done. The spirit of service had gone abroad over the land; men and women had volunteered to nurse the sick, soup kitchens had been established and the victims had been fed, emergency hospitals had been organized to care for the helpless, and business houses had closed and their owners had joined in serving hu-

manity. Of course precautions were enforced—delinquent soda fountains were required to use individual cups; picture shows, theatres, churches, schools, and all public gatherings were closed and forbidden; the people were taught the ways by which spit is swapped, and the disease is spread, and were taught to keep out of crowds. Coöperation was great and successful and the spirit of service blazed into full flame and never before had there existed such a feeling of brotherhood. In fact, people had begun to say that the epidemic had been worth all it had cost since it created sympathy and understanding and dissolved class distinctions.

Now, this wasn't at all to the liking of the Devil. And Bill and his Huns were still getting it in the neck! To ease his mind he decided to call old Shylock and give him a good kick and at least tell him how little he valued his judgment in the matter of epidemics. But Shylock spoke very confidently and demanded another trial. He said, "Didn't I say the Americans do love the money? Let me touch their pocketbooks and you will see of what fibre is their love of humanity and their spirit of local community service. Watch results until New Year's!" The Devil assented.

It was New Year's and Satan was waiting for Shylock. He was in excellent spirits. Of course Bill had had hell knocked out of him, but that had been expected. The second epidemic was accomplishing great results. The people were no longer organized to control the disease; there was "business as usual." picture shows and theatres were running at full blast, stores and streets were crowded, trains were congested, churches were open, and no community precautions were being observed. The Devil was happy and was wondering how Shylock had brought about such delectable results.

At last Shylock arrived and was

greeted with unusual cordiality. He began to tell in detail of how children had been especially attacked, and of how many had died or been crippled for life, of the way in which strong men had been stricken at their posts, of the increased numbers of orphans and widows, of the prospects of a future increase in tuberculosis, and of the acuteness of present suffering. The Devil inquired *how* such results had been accomplished.

"The Americans do love the money and their pocketbooks have been touched," answered Shylock.

"But why didn't business continue during the first epidemic?"

"Times were dull then, but there is holiday trade now and profits are greater. Also, during the first epidemic the disease was new. But now, like tuberculosis, it has become common and is not so much feared," explained Shylock.

"Tell me some of the definite methods you used," said Satan.

Shylock thought for a moment and then replied:

"Take North Carolina, for example; results were as good there as anywhere. I got the schools and churches to claim that they were excellent places to spread health propaganda and this took their minds off of influenza. Some even claimed that diseases can't be caught in churches! There are certainly lots of wise men who know mighty little about the way spit is swapped! That is one of the greatest secrets of our success."

"How did you manage to keep the stores and places of business open," was asked.

"Easy, dead easy! I made a few leading merchants realize how much money they were losing and this made them forget how many children were dying and how many people were suffering. Then they were quick to call on their chambers of commerce and business associations and, in a democ-

racy, organizations like these control boards of health and tie the hands of health officials. Business as usual soon became the slogan and of course if stores were crowded there could be no excuse for placing the ban on other things and picture shows and theatres opened."

"That can all be seen," said the Devil, "but weren't the people afraid to go into crowded stores and shows?"

"They were at first while the newspapers carried headlines warning against crowds. But I stopped this kind of thing from going into the papers."

"How?"

"Why, I had at least one large store in each town to see the newspapers and threaten to withdraw all advertising if such warnings continued to be printed. This stopped it in short order."

"Shylock, you are a wonder," said His Satanic Majesty; "you shall be rewarded. Retire."

"One moment, Your Majesty," said Shylock, "Let me but tell you of the way patent medicine concerns took money from poor people so they could not buy food or fuel. That was great! And of the way educated men and women helped by going into crowds and street cars when they had suspicious colds. Do you know, the more intelligent they looked the less conscience they seemed to have? And I must tell about women taking children and babies with them when shop—."

"Enough," cried the Devil, "I am satisfied. Be gone!"

Now there are some folks that do not believe much that they read or hear, and some things that they see with their own eyes. But there are a few of us who have gone into homes where influenza has hit hard. And we have seen whole families stricken at one time—with no one to give the barest comfort or aid; we have seen fathers and mothers taken, and orphans sent

out into the world with a helpless present and a hopeless future. We who have seen these things and have done our little bit to aid and comfort have sometimes felt inspired when we could give a measure of relief and have felt that our efforts were worth while. And when we would fail to comfort or save we could not help but sympathize and express regret.

And these phases of suffering humanity make us doubt that dollars should be considered of more value than human lives.

B. E. W.

"THE THIRD GREAT PLAGUE"

The two cuts appearing on pages 5 and 6 of this Bulletin, and showing pictures of the germs causing syphilis and gonorrhea, were prepared and loaned to the North Carolina State Board of Health by W. B. Saunders & Company, Philadelphia, Pa. For this kindness we wish to express our appreciation, and, not as a matter of reciprocity, but in the interest of our readers, to commend to those who may be interested in a very complete and authoritative book on syphilis, the book published by W. B., Saunders & Company entitled "The Third Great Plague," written by Dr. John H. Stokes of the Mayo Clinic. The book sells for \$1.50. W. S. R.

FREE DIPHTHERIA ANTITOXIN

The State Board of Health is again calling attention to the fact that the Laboratory of Hygiene is making and distributing diphtheria antitoxin free of cost. The only charge is for the container in which the antitoxin is distributed and this charge is very, very small, being 25 cents for each package of antitoxin whether it contains a small or a large number of units. Progressive counties in the state are arranging for the antitoxin to be distributed by the health officer, county physician, or some public-spirited drug store at the small price

named above. If you cannot secure diphtheria antitoxin made by the State Laboratory of Hygiene—and this antitoxin is standardized and the quality is equal to any produced in the United States—the fault is that your county commissioners have not made arrangements to save this money to the citizens of your county.

The State Board of Health wishes also to call the attention of the people to the fact that the antitoxin produced and distributed as described above, does not mean that the doctor attending the case of diphtheria and using the antitoxin should not receive his usual fee for such services. In former times a family with diphtheria had to pay from \$5 up for diphtheria antitoxin, in addition to the fees of the visiting doctor. At present, if your commissioners are progressive, you can receive the antitoxin for 25 cents, no matter how large a dose is used. But this in no way relieves you of the charge made by the visiting doctor.

B. E. W.

GROWING IN POPULARITY

Medical inspection of school children is growing in popularity. See if it cannot be provided in your county. Even if it does nothing but lead to better care of the children's teeth it will pay for itself. As an exchange well says:

"Many times when the child is apparently well, it may be nursing an ill or a weak spot that, if left to run its course, may do much harm and prove a serious handicap to him in his maturity. Medical inspection of the schools will give the parents an opportunity to know just how their children stand as regards their health, and when they know they can proceed with the treatment and care that is necessary for normal and healthy development of mind and body."—Progressive Farmer.



PUBLIC HEALTH AND SANITATION



Edited by DR. W. S. RANKIN

GONORRHEA

(*Clap, Gleet, Chordee*)

The Cause of the Disease

Gonorrhea is due to a small germ called the *gonococcus*. These germs are about 1/25,000 of an inch in diameter; are biscuit-shaped, and occur in pairs. The flat surfaces of the biscuit-shaped germs are turned together. Figure 1 shows some pus from a person with gonorrhea as it appears under the microscope. Six pus cells, rounded shadows, with three or four round or ovoid bodies (nuclei) in them may be seen, and scattered about in these cells are numerous pairs of gonococci.

The gonococcus is present in every case of gonorrhea. If the pus containing the germs is experimentally placed in the urethra of a well person (this has been done), the inoculated person promptly develops a typical case of the disease. The gonococcus is found nowhere in nature except in those suffering from the disease.

The gonococcus cannot live in a dry state, nor can it withstand even slight variations in temperature. The germ belongs to a small group of disease producers that are almost dependent upon conditions peculiar to the human body.

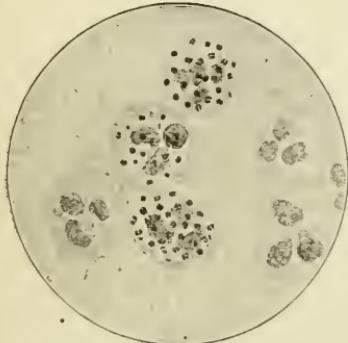


FIG. 1. Gonococci in urethral pus.

The Mode of Infection

As the gonococcus cannot live through the changes in temperature and drying incident to air transmission, air borne infection is obviously impossible; moreover, infection by contaminated things, such as eating utensils, drinking cups, seats of commodes, towels, etc., is extremely infrequent for the same reason. It is possible for a person to contract the disease from infected things, but the time between the contamination of the thing and the transmission of the infectious agent to the new victim must be very short; certainly not more than one case of gonorrhea out of every hundred cases of the disease is contracted from infected things.

The danger is not from *things*, but *persons*. In infectious persons, that is, persons with gonorrhea (either acute or chronic and latent gleet), the infectious germs, practically speaking, reach the surface of the body from which they may be conveyed to others only at one point, namely, the openings of the urinary and genital ducts or canals. It is, therefore, perfectly clear that the disease is contracted through sexual intercourse and almost solely in that way.

All professional prostitutes are infected with gonorrhea, and most of them are infective most of the time. The majority, the big majority, of loose men and loose girls are infected. One may "take a chance" and escape, but every year 2,000,000 new witnesses testify to the danger of exposure.

Symptoms of Gonorrhea

Within from twelve hours to one week, usually within from twenty-four to forty-eight hours, after becoming infected, there is a burning and painful sensation on urinating. There is frequency of urination. There is a profuse discharge of thick, creamy pus from the urinary canal or urethra. The disease in its early and acute form is much more pronounced and more painful in men than in women.

With the above local symptoms, there are usually slight constitutional symptoms; a slight fever running from 99 to 100 degrees, perhaps slight headache, a loss of appetite and general malaise.

Course of Gonorrhea

Prompt and modern scientific treatment would limit, perhaps, ninety-five out of every one hundred cases of gonorrhea to a course of from five to eight

regard gonorrhea as even a more serious disease than syphilis. Because of shame, the desire to hide his disease, the victim (1) postpones consulting a trustworthy medical advisor, and (2) declines to go to bed for a week or ten days for fear the family may suspect the true nature of his trouble. In this way, *prompt* treatment and *scientific* treatment are sacrificed and the patient becomes concerned with—

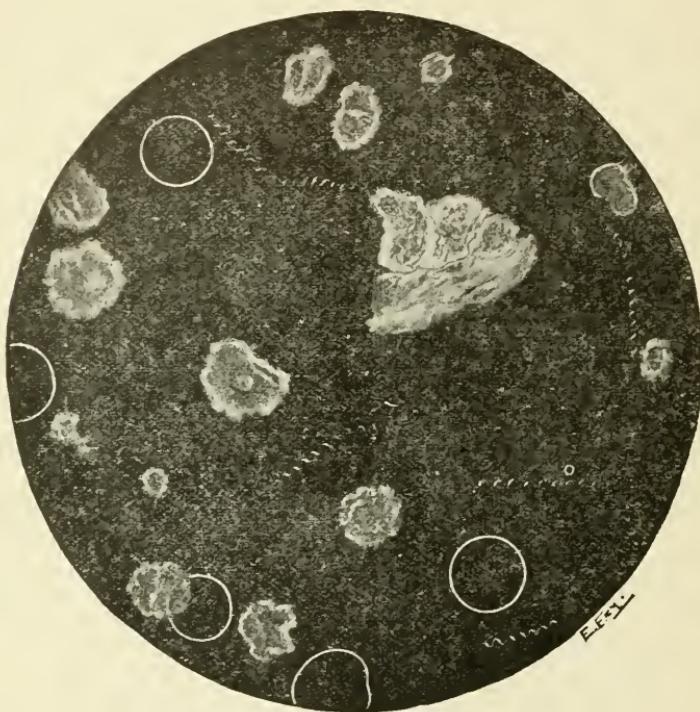


FIG. 2. The germ of syphilis (*Spirochæta pallida*) by dark field illumination in the secretions from a syphilitic wart (condyloma). The living spiral organism highly magnified. The bright circles are red blood cells.

weeks. This means that a person with gonorrhea should NOT (1) treat himself; (2) rely upon a druggist for treatment, and (3) use patent medicines.

There are *two* factors that cause gonorrhea to be one of the most serious of all diseases: One of these factors is ignorance, and the other is shame. Because of ignorance, the victim believes the "bad cold lie" that gonorrhea is no worse than a bad cold. He does not know that among the well-informed there are many who

The Complications of Gonorrhea

General: In both numbers and dire effects, the complications of this disease are surpassed by those of few other diseases. In the beginning, the disease is limited to an infection of the front part of the urinary canal or urethra, but when not promptly treated, extends backward and to deeper parts, and from an infection of the urinary tract to an infection of the genital tract and glands. With this deepening of the field of infection,

there is also a widening of the infectious area, the gonococci burrowing into the deeper parts of the canal and surrounding tissue. This extension and deepening of the infection, the cost of delay and imperfect treatment, occurs in from 40 to 80 per cent of all cases of the disease. It is apparent, therefore, that the tendency of gonorrhea to chronicity is pronounced.

Stricture: Ninety-five per cent of strictures result from gonorrhea. Gonorrhea causes stricture by causing inflammation and, frequently, ulceration of the urethra which, on healing by scar tissue, results in a narrowing of the canal or stricture. Stricture is one of the most frequent and one of the most annoying diseases of men. It necessitates the mechanical dilatation of the urethra by sound, and the artificial withdrawing of the urine by catheter. In interfering with the function of the bladder, stricture not infrequently lays the foundation for cystitis or inflammation of the bladder which, by extension upward, may involve the kidney in an acute bright's disease.

Epididimitis occurs in from 10 to 20 per cent of all cases of gonorrhea. Epididimitis is an inflammation of the upper part of the testicle, and when it affects both glands, usually results in male sterility.

Diseases of Women: Gonorrhea is perhaps the most important single cause of diseases of women. In women, gonorrhea is not usually characterized by such acute symptoms as in men, but the tendency of the disease to extend and to become chronic is perhaps greater.

Cystitis in women is a common complication, in fact, almost one of the constant complications of gonorrhreal infection of women. Cystitis shows itself in frequency of urination with much burning pain on the passage of the urine. The urine voided is small in amount, and cloudy from a large amount of pus mixed with it.

Metritis and Endometritis is an inflammation of the womb or uterus, or the lining of the uterus, respectively. This results from the extension of the gonorrhreal infection upward. It is associated with the discharge of a large amount of white mucoid material from which this disease gets its popular name, "whites"; however, it is important to remember that inflammation of the womb, characterized by the above discharge, that is, the "whites,"

occurs in many other conditions besides gonorrhea.

Pus Tubes: The gonorrhreal infection frequently extends from the womb or uterus to the Fallopian tubes or oviducts, causing a swelling and an inflammation and an accumulation of the pus within the lumen of the tubes. The tubes become dilated, large, rounded like a walnut or an egg, and intensely painful, often necessitating an operation and the removal of the abscess. Of course, this disease of the tubes results in female sterility, provided, however, that both tubes are affected. Recalling here what has been said under the heading of epididimitis as to the effect of gonorrhea in causing male sterility, it is evident that this disease profoundly influences the birth rate, being one of the larger factors in sterile marriages.

Peritonitis: If the pustule should burst and the pus be discharged, it is emptied into the peritoneal cavity with the result that an acute, very grave, not infrequently fatal peritonitis results. This complication, with one or two exceptions, is the gravest of all the complications of the disease.

Gonorrhreal Rheumatism: Two or three per cent of persons with gonorrhea develop this complication. Gonorrhreal rheumatism is caused by a limited number of gonococci breaking through the walls of the urethra and the genital canals and getting into the lymph vessels and into the general circulation. In the general circulation, the gonococci tend to settle out in places least resistant to them. These places are the joints. Gonorrhreal rheumatism usually affects only one or two joints, in this way, differing from regular rheumatism or articular rheumatism that involves many joints. Gonorrhreal infection of the joints is one of the most difficult diseases to treat that is known, and usually follows a prolonged, chronic course, is very painful, and not infrequently results in a permanent stiffening of the joints. Doctor Osler was accustomed to point out to his students the intractable nature of gonorrhreal rheumatism by telling them that when they located, one of their first patients would be a case of gonorrhreal rheumatism who had made the rounds of all the doctors and without results; moreover, Doctor Osler suggested that the young doctor send word to the patient that he was out of town.

Gonorrhreal Septicemia or Blood Poisoning: This is the gravest complication of gonorrhea, but, fortunately, one of the more infrequent complications, perhaps not occurring more than once in every two or three hundred cases. Gonorrhreal blood poisoning results from the invasion of the general circulation by a large quantity of gonococci. The difference, then, between gonorrhreal rheumatism and gonorrhreal blood poisoning is in the numbers of gonococci that break through the local barriers. Gonorrhreal blood poisoning or septicemia is, in the majority of cases, rapidly fatal. Where it is not fatal, it nearly always leaves the patient with serious valvular diseases of the heart.

Ophthal'mia Neonatorum is an infection of the eyes of the new born child with gonococci as the child passes through the birth canal of the mother, who is infected with gonorrhea. About 25 per cent of all blindness is a result of ophthal'mia neonatorum, and 80 per cent of all blindness following birth is a result of this disease. Gonorrhreal ophthal'mia may be easily prevented by dropping one or two drops of a solution of silver nitrate into the eyes immediately following birth. In North Carolina this is required by law, and the State Board of Health furnishes to all doctors and midwives a silver nitrate solution in appropriate form for use; moreover, any doctor who fails to use this precaution is, if the baby delivered by him develops gonorrhreal ophthal'mia, subject to suit by the parents, and there is no jury, where this neglect could be proved, that would not award heavy damages.

Perhaps the saddest sight that one sees in all the world is a blind child that has lost its sight from gonorrhea. No greater punishment can be visited upon any man than to be continually reminded by the presence of his sightless, groping child of the terrible price it is paying day by day throughout its life to expiate his sin.

Green stuff in the form of salad every day will to some extent eliminate the bad effects of indulgence in meat. The fresher this green stuff, the better. More people ought to learn about the mine of health to be found in a kitchen garden.

HEALTH MADE CONTAGIOUS AT SCHOOLS

The health movement in our public schools has been transformed during the past decade from a purely negative movement, having as an object the avoidance of disease, to a splendidly positive movement, having as its aim the development of vitality. We desire for the youth of the future schools in which health, instead of disease, will be contagious, in which the playground will be as important as the book, and where pure water, pure air, and abundant sunshine will be rights, and not privileges. In these schools the physical, the mental, and the moral will be developed together, and not separately; the child will live not only in healthy surroundings, but in surroundings where he will acquire habits of health which will be lifelong.

It is not the man who works with his muscles and sweats profusely who really suffers from the heat. It is the man who has been loafing around trying to keep cool, who has filled his blood with all kinds of toxins which his skin and liver would only be too glad to excrete if he would work enough to give them a chance. Active exercise to a reasonable extent is just as useful a means of health on a hot day as on a cold one.

Don't worry about getting sick. If you have been vaccinated against smallpox, inoculated against typhoid, all the malaria germs in your system killed, and are eating plain, easily digested food, you are likely to be all right. Of course, you want to keep away from mumps, measles, and scarlet fever, and to wear comfortable clothing. Much of summer's discomfort lies with ourselves rather than the weather. If you don't believe it, just make yourself comfortable and see.

PERSONAL HYGIENE



Edited by DR. B. E. WASHBURN

WEIGHT AND HEALTH AS RELATED TO DIET

Weight and health are very important factors in considering a diet for efficiency. If we do not eat enough the various body organs will be starved and will not be able to properly perform their function and ill health may be the result. On the other hand overeating may cause dire results and is often of greater danger than not to eat enough. If too much food is taken the digestive organs will be overtaxed and made to take care of a quantity of food that is not needed. This entails a waste of energy in digestion and is very harmful. If, in repairing a house, a great deal more material than is needed is brought into the house, it will be in the way of the workmen and they will have to spend their energy in moving it out of their way. When more food is taken into the body than is needed it is just like so much rubbish which must be cared for. There are a number of things which lead to the bad habit of over-eating. These are eating too fast, drinking too much at meals, and eating too great a variety of food at one meal.

The following tables and comments adopted from "Food: Fuel for the Human Engine," by E. L. Fisk, show the important relationship existing between bodily weight and health and the influence of diet on these:

Table of Heights and Weights at Age 30.

MEN:			
5 ft. 0 in.....	126	5 ft. 9 in.....	156
5 ft. 1 in.....	128	5 ft. 10 in.....	161
5 ft. 2 in.....	130	5 ft. 11 in.....	166
5 ft. 3 in.....	133	6 ft. 0 in.....	172
5 ft. 4 in.....	136	6 ft. 1 in.....	178
5 ft. 5 in.....	140	6 ft. 2 in.....	184
5 ft. 6 in.....	144	6 ft. 3 in.....	190
5 ft. 7 in.....	148	6 ft. 4 in.....	196
5 ft. 8 in.....	152	6 ft. 5 in.....	201

WOMEN:

4 ft. 8 in.....	112	5 ft. 5 in.....	134
4 ft. 9 in.....	114	5 ft. 6 in.....	138
4 ft. 10 in.....	116	5 ft. 7 in.....	142
4 ft. 11 in.....	118	5 ft. 8 in.....	146
5 ft. 0 in.....	120	5 ft. 9 in.....	150
5 ft. 1 in.....	122	5 ft. 10 in.....	154
5 ft. 2 in.....	124	5 ft. 11 in.....	157
5 ft. 3 in.....	127	6 ft. 0 in.....	161
5 ft. 4 in.....	131		

Lightweight is not a disadvantage if one is otherwise in good health, especially after age 30.

Overweight is always a disadvantage and should be avoided, especially by those approaching middle life. Keep your weight about the average figure for age 30, and do not let it creep up as you become older.

The death-rate among those 50 to 80 lbs. overweight at middle life, is nearly double that of those slightly underweight at that age. Some allowance must be made for type, a heavy-framed individual carrying naturally more weight than one slender and light-framed.

Overweight and the Death-Rate

The fact that the man of average weight is, after age 40, actually overweight and that the average individual at that age is above the best weight is shown by life insurance experience. For example, a man of 5 feet 7 inches to 5 feet 10 inches in height, age 45 to 49, 10 pounds overweight, would have a 4 per cent lower mortality than the man of exactly average weight for that age and height.

Overweights at that age and height show the following extra mortality as compared to those 10 pounds under the average weight:

Pounds Over- weight	Per Cent Higher Death-rate	Pounds Over- weight	Per Cent Higher Death-rate
5.....	08	50.....	60
10.....	12	55.....	65
15.....	18	60.....	71
20.....	22	65.....	78
25.....	26	70.....	85
30.....	32	75.....	92
35.....	40	80.....	100
40.....	49	85.....	110
45.....	55	90.....	120

This shows that the burden of extra mortality borne by the heavy-weight regularly increases with gain in weight. At the same age and height, 50 pounds underweight shows a death-rate equal to the actual death-rate among insured lives generally and only 6 per cent in excess of the death-rate among those of average weight. Thirty-five pounds underweight at that age shows a lower mortality than among those of average weight.

Table Showing Influence of Underweight

Ages: 45 to 49.

Height: 5 ft. 7 in. to 5 ft. 10 in.

(Height and weight taken with coat and vest off, and in shoes.)

Under Average Weight	
5 lbs...3%	lower death-rate than average weight.
10 lbs...4%	lower death-rate than average weight.
15 lbs...5%	lower death-rate than average weight.
20 lbs...5%	lower death-rate than average weight.
25 lbs...4%	lower death-rate than average weight.
30 lbs...3%	lower death-rate than average weight.
35 lbs...2%	lower death-rate than average weight.
40 lbs...0	Mortality of average weight.
45 lbs...3%	higher death-rate than average weight.
50 lbs...6%	higher death-rate than average weight.

It must be remembered that these figures are taken from life insurance sources where the individuals have been subjected to careful medical examination. This shows that no matter how careful the medical examination, it has been impossible to select a favorable class of mature overweights while it has been possible to select a relatively favorable class of mature underweights. It should also be remembered that these figures relate to adverse factors. That is, these groups presented no other departure from the normal than their variation in weight.

Keep away from persons who tell you that they are not afraid of "catching" communicable diseases. They are in the same class as the person who rocks the boat.

It is so much easier to prevent fires and accidents than to repair damages. The habit of Safety First will avoid both.

EATING TO LIVE WELL

No one can have health who eats too much.

No one can have health who eats too often.

No one can have health who eats when tired, hurried, worried, anxious, or excited.

No one can have health who rises late, gulps down a hearty breakfast, swallows a sandwich and a glass of milk for dinner, and tops off the whole performance with a late supper.

When you have eaten do not wonder if it will agree with you. When you begin to wonder, trouble begins. If you fear it, do not eat it; if you eat it, do not fear it.

Be cheerful at your meals. A sour countenance will give you a sour stomach.

Milk bottles should be used to hold milk and for nothing else. As soon as the bottle is empty it should be rinsed in luke-warm water until clean; it should then be scalded and set bottom upwards to drain.

Sanitary regulations should prohibit the return to the milk man of bottles which have not been cleaned.

The Chinese plan of paying doctors is correct in principle, and in this regard we occidentals have the cart before the horse. In China the doctor is paid for keeping his patients well, and his pay stops when they get sick. This is the practical application of our universally admitted adage that "An ounce of prevention is worth a pound of cure." We generally entertain the delusion that we may continue to indulge our appetites and passions until disease appears, and then oust the disease with a few tablets or pills. When we rise out of this delusion we will resort to prevention, and not before.



CHILD HYGIENE



Edited by DR. GEO. M. COOPER.

SAFEGUARDING THE HEALTH OF OUR SCHOOL CHILDREN

By EMMETT HOLT, M.D.

(Reprinted from the New York Times and Bulletin of the Child Health Organization.)

All studies that have been made in this country indicate that large numbers of children, especially in the crowded cities, are physically far below par. How much this condition affects the health and vigor of our people was revealed in the selective draft. The defective physical condition of young men of draft age was largely due to neglect of proper supervision and guidance during their period of growth. If the defects disclosed by the examining physicians had been recognized early in school life it would have been possible, in a large measure, to correct them.

One thing is conspicuous in the results of our studies and observations, and that is the superior physical condition of the children of the better-cared-for classes, those who are favored with improved conditions of life. PROPER FEEDING, FRESH AIR, AND OUTDOOR EXERCISE HAVE MADE THE PRESENT GENERATION OF CHILDREN OF THE WELL-TO-DO CLASSES, TALLER, HEAVIER, AND STRONGER THAN THEIR PARENTS. This is a matter of common observation. Children of other classes, however, especially in the large cities, do not show the same improvement. The knowledge of child culture has not yet filtered down to the masses.

The war has created a situation which makes the condition of these children even worse than in peace times. The higher cost of food, particularly of milk, which has led many families to forego its use entirely, is chiefly responsible for this condition today.

A great deal has been done, of course, in the last thirty years for the better health of children, but the efforts of most of the boards of health and the welfare agencies have been

concentrated—and very properly, too—on the care of infants, among whom the largest number of deaths occur. The milk stations, for example, follow the child during its first two years. They have done remarkable work. They have been a large factor in reducing infant mortality in this city from 288 in each 1,000 of infants born thirty years ago to 89 in the same number born last year. This has meant organization, coöperation, and widespread publicity. It has been a campaign of education.

But the army of more than twenty millions of school children has as yet received very scant consideration. Proper medical examination of school children exists in only a small number of states and in but a few of the larger cities. In the greater part of the country there are no such examinations, even in the most superficial form, and where they do exist, for the most part, they are very inadequate, often consisting merely of one examination at the beginning and another at the end of school life. EVEN THESE EXAMINATIONS IN MOST INSTANCES ARE ONLY CASUAL. THEY ARE MADE, FOR EXAMPLE, WITHOUT REMOVING THE CLOTHING OF THE CHILD FOR A PROPER EXAMINATION OF HEART AND LUNGS.

An important economic point is the necessity for what is known as reeducation of backward children in the schools, or the repeating of grades. This is a great waste of efficiency and entails an enormous expense. The necessity for reeducation is probably due to the health of the child more than to any other cause. A child's brain cannot be expected to do good work if the stomach is empty, any more than you can expect an engine to run without gasoline.

The conditions above outlined have led to the formation of the Child Health Organization. The business of keeping the school children in good physical repair has not been generally thought of as a public duty. Too much stress in medical work in the schools has been placed on the detection of de-

fects, such as adenoids and the condition of the tonsils and teeth. This work is important, of course, but there seem to be even more essential and fundamental questions to consider, especially the influences which affect nutrition. The normal growth of children has been ignored, or at least has been very little thought of.

Few attempts have been made to arouse the interest of the child himself in health matters or to see to what degree he could be stimulated, not only to take an interest in his health, but to have the ambition to be well and strong.

The response of a group of children to an appeal like the following is astonishing:

"Every child owes it to his country to make and keep his body as strong and well as possible.

"Uncle Sam does not want soldiers who must ride in the ambulance because they are delicate tired, or weak. What he wants is soldiers who can march in the ranks and fight for their country. He needs an army of strong, capable boys and girls who can do their part at this great time. He does not want any boy or girl to be a burden, but to carry one, and he needs every child."

The present extent of health activities is inadequate, because it does not include this emphasis on teaching good health habits in addition to the detection of disease.

In the few isolated instances where the experiment has been tried, the response of the children to this effort at health education has been a revelation. The demonstration conducted by the Child Health Organization at the Conservation Food Show was one of these instances. When it becomes known to the child that he is below the normal or average weight for height and age, and he realizes that unless he is gaining normally he can never be considered for athletic honors of any kind in his school or group, a powerful argument has been found. Instead of rules of hygiene being a set of prohibitions, they become rules for his guidance to help him improve his physical status.

In the past the mistake has been in the effort to impose rules for health, instead of arousing the child's own interest and coöperation. There have been too many "don't's" and not enough "do's." The fundamental idea which the Child Health Organization is endeavoring to encourage is well ex-

pressed by its motto, "Health in Education, Education in Health."

INSTRUCTION IN HEALTH SHOULD BE THE MOST VITAL PART OF EVERY CHILD'S EDUCATION, AND IT NECESSARILY MUST BE GIVEN EARLY, WHILE THE CHILD IS AT THE RECEPTIVE AGE. Not only that, but this instruction will spread from the child to his companions and into his home. He will begin at once to educate his parents, which is most important. One of the chief troubles of our foreign-born people has been in the selecting of the proper American foods, and it has been found difficult to reach them and teach them. In many cases where children are under-nourished, the condition is not due to poverty, but to ignorance. Parents must be taught how to feed their boys and girls the foods that are suitable for their ages and necessities of growth, and the child must also be taught to eat these foods.

The initial measurement of weight and height gives a starting point, so that the progress of the child during the school period in growth may be noted and emphasized. A SET OF SCALES AND A MEASURING ROD SHOULD BE IN EVERY SCHOOL, AND A NOTATION OF THE CHILD'S PROGRESS IN HEALTH SHOULD BE KEPT AS A PART OF HIS SCHOOL RECORD, GOING WITH HIM FROM GRADE TO GRADE AND FROM SCHOOL TO SCHOOL.

The problem of combating malnutrition in children is a serious one now confronting the country. It is a menace to our future citizenship. The nation is beginning to suspect, if not to realize, that even more essential to its permanence than progress in science, politics, or industry is the health of its people, especially of its children. THIS NATIONAL ASSET—HEALTH—is, AT PRESENT, THE MOST IN DANGER OF ALL OUR NATIONAL RESOURCES.

The Child Health Organization is taking up as one of its principal lines of activity measures by which present conditions may be combated. The aim is to bring together in special classes for health instruction in each school those children whose nutrition is most markedly deficient, and give them individual attention. The coöperation of parents in this work is sought in every way. Observation of the children should be monthly, or even weekly,

exactly as is the practice with the infants at the milk stations.

An important agency in overcoming malnutrition among school children is the supplying in the schools of one or more hot meals each day. This practice is now well recognized abroad as a means of improving the health of children. In New York City there are already over fifty schools where the school luncheon has been introduced. The Child Health Organization aims to develop this important work. In most of the schools only the noonday luncheon is furnished. This is a hot, well-balanced meal, such as a healthy child at school requires, and it is supplied at a price which barely covers the cost of the food. Service and equipment are provided by the municipality in some places, and in others by private philanthropy. One special argument for this luncheon in the war period is the employment at the present time of so many women in industry. Mothers, so employed and away from home, cannot prepare the midday meal for the children. There is usually left for the child only the choice between the school luncheon and the pushcart.

The idea dominating the school luncheon in the past has been chiefly philanthropic—to supply the growing child with one good meal each day. Its value for this purpose cannot be overestimated. But quite as important is its educational value. Instead of offering a menu for the child to select from, as its fancy dictates, each meal served becomes an object lesson in nutrition values, and he learns to eat the proper kinds of food required for growth and nutrition.

The interest aroused in the child by these meals is most surprising. In a few weeks he takes an interest in the number of calories his food furnishes and how a proper meal is made up.

The education of the child means the education of the parent. Just as the groups of girls known as the Little Mothers have been able to teach their own mothers what is good for the babies, at the same time learning lessons which it will be impossible for them to forget, so these school luncheons, properly prepared, will leave a lasting impression.

Since the health of the child in industry has for some time been an intimate concern of the National Child Labor Committee, it seemed wise to act with that body.

If the physical status of the child is known, he can be directed to the proper channels on entering industry and placed in the occupation he is best fitted for. The character of his instruction in the manual training school can be determined in the same way. IT SHOULD BE POSSIBLE TO CANCEL THE WORKING PERMIT OF THE CHILD WHEN HIS JOB IS FOUND TO BE UNSUITABLE TO HIS HEALTH.

An effort to awaken the child's interest in his health is made by arguments like the following:

"Think of your body as an engine. It really is one, for it produces heat and power like a gasoline or steam engine. If we note how the engineer cares for his engine to get the most work out of it with the least expense for fuel and with the least wear and tear on the engine, we may perhaps learn something from him.

"Our bodies are much more delicately made than any engine or machine that was ever invented by man, but many of the same rules hold regarding it. The engine must have the right kind of food. Food is the fuel of the body, and is actually burned up in the body to keep us warm and to produce the strength we use up in work or play. But the food for the body must do something more than this. The bodies of children must grow, and they grow very fast at the school age. They often double in size between the seventh and fourteenth years. It is very necessary, then, that the food selected should supply all that is needed to enable the body to grow right—and IT IS JUST AS EASY TO GROW RIGHT AS TO GROW WRONG.

"We know what kind of fuel is best for the body, just as we know what kind is best for engines and automobiles. You would think that, when people knew what is best and also what is cheapest, they would, if they could, get it, not buy any other. So they would if they were wise and would stop to think; but many people are wise about other matters and very ignorant about the food that is best for their bodies."

When once ideas like these are thoroughly impressed upon the child's mind, he is in a receptive mood for health instruction of every kind.

INFANT HYGIENE



Edited by MRS. KATE BREW VAUGHN.

MOTHERS AND BABIES

How the State Board of Health Can Help Mothers Raise Their Babies

Recognizing the large number of mothers and children who are dying each year of preventable causes, and endeavoring to reduce this number and at the same time assist in every way possible the mothers of North Carolina, the State Board of Health has given me the Bureau of Infant Hygiene as a medium through which to meet you. I rather think I was appointed to this position because of my love and sympathy for children and mothers, and, because I am the mother of five well-grown children.

Looking back over my early motherhood, I feel that the first baby was so experimented with that she lived in spite of me, rather than because of me. I had sufficient love to have sacrificed anything for her, but I had little or no knowledge of "mothercraft" and so, was dependent upon neighbors and servants for the knowledge of those things upon which her well being depended. I knew a little of music, art, literature; could make pretty salads and very good deserts, but all of these accomplishments were rather superfluous in the care and feeding of a little human being. Fortunately, I was well myself and was able to nurse her until she was ten months of age, and it was at this time that my greatest trouble began, for I had no idea that there was a science connected with the feeding of a baby, but was rather of the opinion that God took those children who died as an ornament to His Throne and because He loved them too well to leave them on earth. The weaning took place in the fall of the

year, and on account of its being cool weather, and to that alone, I attribute the fact that she ornaments and lends fragrance through her presence to my home today and glorifies the Father in so doing.

Twin boys came next, and the problem of supplementary feeding came up. For a time I was compelled to use a patent food for this, and lack of knowledge (or maybe it was common sense) gave me much trouble—the food was too rich and a number of ills resulted, painful to babies and entailing extra labor on myself. An excellent friend, in the person of my physician, put a book on infant feeding in my hands and made me realize that all the love in the world would not take the place of common sense and knowledge of basic facts. With the two children, who followed to make up my five, there was as little trouble as could be expected. They were breast-fed for ten months, properly fed after being weaned, and, aside from measles and whooping cough, which, because the babies were healthy, appeared in the mildest possible form, they have not been ill.

There are many things about the babies and about the expectant mother's condition on which the mother would often like to have advice. Sometimes there is an older friend to whom she can apply for this knowledge, or possibly her physician is the sort to whom she can go for information of what, to her, seems important, but which she fears may seem trivial to the physician. Oftentimes, the mother would like to tell someone of what she is doing for the babies in order to have them confirm her judgment, or maybe it would please her to tell someone, who is vastly interested, about the new teeth, and ask whether or not her baby is the proper weight for age, or possi-

bly she would like to apply for sympathetic understanding of her position only.

The expectant mother feels a delicacy often in discussing her condition, or she may be at some distance from her physician; or it may be for economic reasons she does not employ a physician; but there are many things on which she wants advice. If it is her first experience, maybe she would like to know the approximate date of the baby's birth, or it may be the necessary articles of clothing or toilet for the little one about which she wants to be advised. Frequently when weaning the baby, young mothers would like to go to the physician and tell him all about the disposition, habits of eating and sleeping, etc., of the baby, and get recipes and means for feeding "his lordship." But busy doctors do not have time for all of this, and too frequently the conscientious little woman depends upon the advice of her next-door neighbor, whose children, like my own first baby, lived in spite of, and not because of mother.

Aside from my own practical knowledge, I have had ten years of technical and teaching training in dietetics and mothercraft, and to this the State Board of Health has added the advice of Dr. Aldert Smedes Root, whose forte is the care of babies and who enjoys a big clientele of "Well Babies," as well as treating sick babies.

I want to do for you what I should love to have had done for me twenty years ago. I want to be the friend to whom you will write for advice before the baby comes and after the baby comes, and until he is sent out from you on that first personal and individual experience of "going to school."

The State Board of Health has a large and wonderfully equipped corps of specialists in its employ, and any question put to me in the interest of the mother or the child will be answered by them in case it is outside my domain. I should like to get a friendly letter telling me of your expectancy of a new "responsibility" and whatever you write shall certainly be strictly confidential and will receive an answer to the best of my ability.

Yours in the name of
better motherhood,
KATE BREW VAUGHN,
Director.

TEMPER AND CHILDREN

By SAMUEL G. DIXON, M.D., LL.D., Commissioner of Health of Pennsylvania

OUR bodies are our gardens, to which our wills are gardeners."

Physical, mental and moral health depend upon self-control and the cultivation of this in children is of greater importance than any other single virtue.

Who has not observed the disciplinary efforts of parents with a feeling that they could improve upon the methods employed and the results obtained? The casual observer usually decides that parents are more often to blame for the faults of their offspring than the children themselves. Like begets like, and the loss of self-control by the father and mother is almost certain to be reflected in the child.

With children of a high-strung and nervous temperament, the display of passion and the loss of self-control is to be expected. To teach a child to govern itself and to control these gusts of temper is worthy of the most careful study, persistent and kind effort.

To permit a child to give way to passion during the early years of its life is apt, when the strain of the real burdens of life are added in later years, to end in a nervous or mental breakdown.

All students of nervous diseases are aware of the possibility of the inheritance of mental defects present in the parents. No one factor is of greater aid in equipping a child to battle with hereditary tendencies of this character than its education in self-control. It is of the greatest aid in the establishment of mental equilibrium and the maintenance of a sane pose. Knowledge, morality, and a healthy, temperate physical existence are the fruits derived from the cultivation of this virtue.

11,749 BABIES UNDER FIVE YEARS OF AGE DIE IN NORTH CAROLINA EVERY YEAR

This Is One-Third Of All The Deaths Occurring In The State.

2,626 Of these babies under two years of age die of diarrheal diseases.

2,046 Under one month of age, die of congenital diseases.

3,153 Are stillborn.

557 Mothers die of diseases incidental to childbirth.

THESE DEATHS FOR THE MOST PART ARE DUE TO THE MOTHER'S NOT KNOWING THE PROPER METHODS OF CARING FOR HERSELF PREVIOUS TO THE BIRTH OF BABY, AND OF ITS CARE AND FEEDING AFTER ITS BIRTH.

To reduce the number of baby deaths in the State, the State Board of Health has created a Bureau of Infant Hygiene and employed as Director, Mrs. Kate Brew Vaughn, who is herself a practical mother, and who, in addition to this experience, has had technical training in Mothercraft and Nutrition. Associated with Mrs. Vaughn is Dr. Aldert Smedes Root, who is recognized as one of the best baby specialists in the country.

Mrs. Vaughn desires to meet the mothers of the State personally or through correspondence that she may advise them regarding:

PRENATAL HYGIENE (Confidential Letters).

CHILD CARE.

ARTIFICIAL FEEDING.

FEEDING OF CHILD AFTER WEANING.

FEEDING CHILD OF PRE-SCHOOL AGE.

Send name and address on post card for literature, to

BUREAU OF INFANT HYGIENE

STATE BOARD OF HEALTH



The

The Health Bulletin

Published by THE NORTH CAROLINA STATE BOARD OF HEALTH

This Bulletin will be sent free to any citizen of the State upon request.

Entered as second-class matter at Post office at Raleigh, N. C., under Act of July 16, 1894.

Published monthly at the office of the Secretary of the Board, Raleigh, N. C.

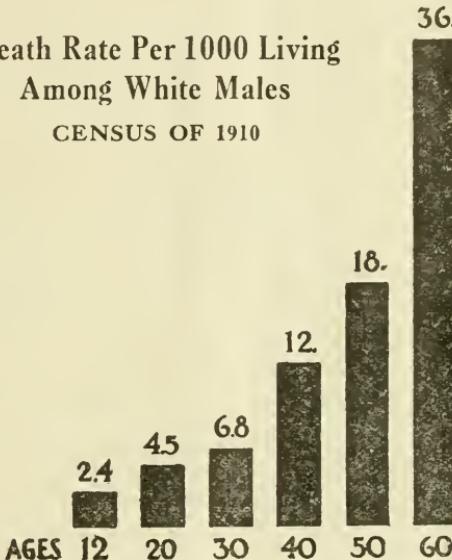
Vol. XXXII

FEBRUARY, 1919

No. 8

Death Rate Per 1000 Living Among White Males

CENSUS OF 1910



WHY BE AN OLD MAN AT FORTY?

The above cut shows that more than twice as many men die at forty as die at twenty. Anyone with a modicum of common sense knows that this is not as it should be. A man should be in his prime at forty, and some are at fifty; but, according to the above cut, the mass of men are in their prime at twelve. At this early age their vitality begins to wane and defects accumulate, so that by the time they are twenty and thirty years old, they are old men. This is largely because of neglect of the human body, failure to have it looked over for physical defects and weaknesses, and failure to have these remedied or removed.

Isn't it worth while to take a little more care of how you live and stay young at least until you are twenty? There are no physical reasons why men should grow old and die at forty.—*Adapted from "How to Live."*

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FREE PUBLIC HEALTH LITERATURE

The State Board of Health has a limited quantity of literature on health subjects for free distribution. If you are interested in one or more of the following subjects, or want same sent to a friend, write to the State Board of Health for free literature on that particular subject.

WHOOPING-COUGH	CLEAN-UP PLACARDS	SMALLPOX
HOOKWORM DISEASE	SPITTING PLACARDS	ADENOIDS
PUBLIC HEALTH LAWS	SANITARY PRIVIES	MEASLES
TUBERCULOSIS LAWS	RESIDENTIAL SEWAGE	GERMAN MEASLES
TUBERCULOSIS	DISPOSAL PLANTS	TYPHOID FEVER
SCARLET FEVER	EYES	DIPHTHERIA
INFANTILE PARALYSIS	FLIES	PELLAGRA
CARE OF THE BABY	COLDS	CONSTIPATION
FLY PLACARDS	TEETH	INDIGESTION
TYPHOID PLACARDS	CANCER	
TUBERCULOSIS PLACARDS	MALARIA	

SEX HYGIENE BULLETINS

SET A—FOR YOUNG MEN

A Reasonable Sex Life for Men.
 Sexual Hygiene for Young Men.
 Vigorous Manhood.
 Smash the Line. (The case against the restricted district.)
 List of Reliable Pamphlets.

SET B—FOR PUBLIC OFFICIALS AND BUSINESS MEN

Public Health Measures in Relation to Venereal Diseases.
 Venereal Diseases—A Sociologic Study.
 Smash the Line. (The case against the restricted District.)
 The Need for Sex Education.
 A State-Wide Program for Sex Education.
 List of Reliable Pamphlets.

SET C—FOR BOYS

Vigorous Manhood. (Especially for boys 12 years of age and over.)

NOTE.—For boys under 12, see "When and How to Tell the Children" (Set D); portions of "Vigorous Manhood" also may be read to younger boys. Boys 15 years and over may be given Bulletin "A Reasonable Sex Life for Men" (see Set A), at the discretion of the parent.

Sexual Hygiene for Young Men.
 List of Reliable Pamphlets.

Any of the above will be sent without charge. Please send for only those bulletins for which you have definite use.

SET D—FOR PARENTS

When and How to Tell the Children.
 Venereal Diseases—A Sociologic Study.
 The Need for Sex Education.
 List of Reliable Pamphlets.

SET E—FOR GIRLS AND YOUNG WOMEN

Your Country Needs You. (Especially for girls 11 years of age and over.)

NOTE.—For girls under 11, see "When and How to Tell the Children" (Set D); portions of "Your Country Needs You" also may be read to younger girls. Girls 15 and over may be given "The Nation's Call to Young Women" at the discretion of the parent.

The Nation's Call to Young Women.
 List of Reliable Pamphlets.

SET F—FOR TEACHERS

The School Teacher and Sex Education.
 Sex Education in the Home and High School.
 Venereal Diseases—A Sociologic Study.
 Smash the Line.
 The Need for Sex Education.
 List of Reliable Pamphlets.

THE Health Bulletin

PUBLISHED BY THE NORTH CAROLINA STATE BOARD OF HEALTH



Vol. XXXIV

FEBRUARY, 1919

No. 8

EDITORIAL

BIG OPPORTUNITIES FOR THE STATE

The Nation's manpower has just been given a complete physical examination by Uncle Sam himself. Something like 10,000,000 men within the healthiest age period, between twenty and thirty years, have been called from all classes and conditions of American life, and have been thoroughly examined under the direction of the Government. This examination has revealed perhaps the most significant of all facts relating to public health, to wit, that 38 per cent of the men examined were physically unfit for military service. Can a nation or state survive and prosper with 38 per cent of its population unfit for service?

The diagram on the cover page of this bulletin, which is also based upon the findings of the Government—the Bureau of the Census—illustrates another significant fact to those who think, to wit, that more than twice as many people die at the age of forty as die at twenty. In other words, the vitality and physical endurance of the average man has so depreciated that at forty it is not half of what it was at twenty. Shall men continue to grow old and die at forty, when it is their right and within their power to live to be sixty, seventy or eighty years of age?

Another significant fact to the thoughtful is that in North Carolina, out of 34,005 deaths last year, 11,749, or more than one-third of all the deaths

that occurred in the State, were of children of five years old and under; over 8,000 of the 11,749 deaths were of babies two years old and under. Shall the little children of the State continue to die at this rate?

In a recent speech, Lloyd George, whose opinion has greater weight today than any one man's in the world, perhaps (with the single exception of Woodrow Wilson's) has sounded a solemn warning to his country regarding the dangers that await the State that neglects the health and physical welfare of its people. England's warning is America's warning. This notable address appears on another page of this Bulletin. Read it. There is not a single statement of fact or opinion in it that Woodrow Wilson would not approve.

The account of the State of North Carolina with her public health obligations and opportunities is given on pages 7 to 12 of this bulletin. The account is stated briefly and in business form, giving first the total expenditures, and second, the results, item by item. Know what the State is getting for the money it is spending on the health of its people.

In the words of Lloyd George, "To be thoroughly equipped to face any emergency of either peace or war, the State must take a more constant and more intelligent interest in the health and fitness of the people. You cannot maintain an A1 nation with a C3 population."

W. S. R.

NO A1 NATION WITH C3 MEN

Lloyd George Warns England of the Ruin to Follow Physical Neglect of the People—England's Warning Is America's Lesson.

One of the most notable addresses of the war period is the health speech of David Lloyd George, premier of Great Britain, in which he warns his country of the ruin and decay that will inevitably follow neglect of the people's health and physical welfare.

Lloyd George's warning to Britain is America's opportunity to learn a great lesson. The conditions that threaten her future greatness—conditions affecting the health and happiness of her people—are some of America's greatest problems also.

Lloyd George's speech in part follows:

To Be Ready for Peace

"As soon as the unseen hand casts the rainbow of peace on the skies we must be ready. And to be ready is summarized in one counsel. We must profit by the lessons of the war.

"The first lesson it has taught us is the immense importance of maintaining the solidarity of the Nation. The British empire has rendered a service to humanity the magnitude of which will appear greater and greater as this generation recedes into the past. It helped to stop the onrush of barbarism that was sweeping over Europe. It has held the unfenced highways of the world free for the armies of freedom to pass and repass. To permit such an organization to fall to pieces after the war would be a crime against civilization.

"The next great lesson of the war is that if the State, if Britain, is to be thoroughly equipped to face any emergency of either peace or war the State must take a more constant and more intelligent interest in the health and fitness of the people. If the empire is to be equal to this task, the men and women who make up the empire must be equal to theirs. How does Britain stand in the light of that test? We

have done great things in this war. We could have accomplished greater if this country had been in a sound condition. War, like sickness, lays bare the weakness of the constitution. What has been ours? Let us talk quite frankly.

"We have had a ministry of national service set up in this country, and since then we have had the most carefully compiled statistics as to the health of the people, certainly between the ages of 18 and 42. That is the age of fitness and the age of strength. What has it revealed?

"You have the three grades—your A1, your B2, and your C3—and all I can tell you is this, that the results of these examinations are sufficiently startling—I do not mind using the word appalling. I hardly dare to tell you what it is in some parts of Lancashire. The number of B2 and C3 men throughout the kingdom is prodigious, so much so that we have half suspected the doctors. But there was a reexamination, which did not make very much difference, and I apologize to the doctors here—for the first time.

Human Material Wasted

"What does it mean? When you look at it, it means this—that we have used our human material in this country prodigally, foolishly, cruelly. I asked the minister of national service how many men we could have put into the fighting ranks if the health of the country had been properly looked after, and I was staggered at the reply. It was a considered reply. He said at least one million. If we had only had that number this war would have long ago ended triumphantly for us.

"But here we are, combing out essential industries—there are questions as to whether you should put miners back or keep them in the army (a few tens of thousands); whether you should put a few thousands more into munition works. And yet you had one million men who, if the State had taken proper care of the fitness of the people, would

have been available for the war. And the vigor and strength of the workers of this country have been unsatisfactory even in pursuits where all conditions are favorable to the development of a fine physique—agriculture. The results in agriculture have been almost as disappointing as in almost any other industry—a thoroughly healthy occupation of that kind.

“Everywhere a virile race has been wasted by neglect and want of thought for it. It is a danger to the State and to the empire.

“And unless this lesson is learned, the war will have been in vain. Our schooling has cost us dear, but if we

“Now the most important workshop in this land is the home. And the quality of the steel in the national fabric depends upon the home. If it is unhealthy, ill-equipped, ill-supplied, ill-managed, the quality becomes defective and it cannot bear the strain.

Health Needs of the People

“What are the influences that make for the health of the people? The first is the houses in which the people live. You cannot bring up a healthy people in unhealthy homes. Why, even those who rear animals will tell you that. The problem of housing in this coun-

LLOYD GEORGE ON HEALTH

“War, like sickness, lays bare the weakness of the constitution.”

“You cannot maintain an A1 nation with a C3 population.”

“Care for the health of the people is the secret of national efficiency.”

“To be thoroughly equipped to face any emergency of either peace or war, the State must take a more constant and more intelligent interest in the health and fitness of the people.”

make the best use of it I believe it will be worth it all in the end, even in the saving of human life.

“Care for the health of the people is the secret of national efficiency. It is the secret of national recuperation. With our machinery we take the greatest care. It is material. The way we look after it if the steel is defective through badly ventilated or ill-constructed furnaces or insufficient fuel! If the machine is inadequately oiled or not looked after or overworked, if repairs are not done in time and done thoroughly—well, your machinery is no use.

“I solemnly warn my fellow countrymen you cannot maintain an A1 empire with a C3 population.

“And man is the most delicately constructed of all machines. It is bad business not to look after the men, the women, and, if I may say so, above all the children.

“If the State had properly looked after the fitness of the people, England would have had 1,000,000 more fighting men at the front.”

“You cannot bring up a healthy people in unhealthy homes. The most important workshop in the land is the home.”

“You cannot plow the waste land with writing paper, you cannot sweep away the slums with paint brushes, and you cannot bind the gaping wounds of the people with red tape.”

try is the most urgent that awaits treatment. We have talked about it, we have played with it for forty, fifty years, but it has never been really taken in hand. It has only been taken in hand in the way an untidy or slovenly housewife takes up the cleaning of her house—just that part where the visitor can see.

“There has been too much of that in our cities. The slums, the bad houses—they are out of sight. That is not the way to deal with a problem which affects the strength of the Nation. No government, no party has had the courage to grapple with it in the way a good business man would grapple with some sort of rottenness which he discovered in his business, and which was wasting his assets. He would not trifle with it; he would have the thing thoroughly searched out and put right. That is what ought to be done. It is equally true of the

whole field of public life. We have had acts of parliament running into hundreds of sections; we have had regulations that would fill a library; we have had the most attractive pictures of model dwellings circulated, and we have had endless authorities. But you cannot plow the waste land with writing paper, you cannot sweep away slums with paint brushes, and you cannot bind the gaping wounds of the people with red tape. That is our first problem.

"The next is this: There ought to be a more intelligent organization of the forces which have specially in charge the health of the Nation—national, municipal, medical. We have enormous losses to make up. The crippled and the wounded must come first; but we must also think of the children who are to fill up the gap in the generation that is to come.

"The State must see that they are built up into a strong, healthy and vigorous people. There is no surer way of strengthening the country than that.

"What more are we to do to improve the life of the people? Wages during the war have been raised and we must see in the future that labor is rewarded with wages that will sustain life in full vigor. I am glad to see that in agriculture wages have gone up. There must be healthier conditions in the workshops. Many of them were admirable; many of them tolerable, many not tolerable. Bad health for the Nation is bad business for all.

The Nation's Hour

"There are times in the history of the world when nations take a great leap forward into the light. This is such a time. There is a great river in eastern Europe which, after meandering sluggishly through hundreds of leagues, finding a great barrier in its road, concentrates the whole of its strength to break through—rushes along and then merges into a sunnier land and into more fertile plains. That is the story of the national life of this country, before, during and after the war. It has taken a great rush forward, and when it emerges from the rocks through which its torrents are now struggling it will deploy into a sunnier and a fairer land.

"The men who endure the discomfort, the terror, the torture in this

mighty struggle have not gone through it all to reestablish more firmly in this land, for which they have fought, the dominion of slums; of wages that will not maintain, let alone cheer life; of confusion and disorganization, which create waste, inefficiency, misery and squalor.

"But to enable the Nation to bear the gigantic burden of debt which the war will impose upon it, and the still greater burden of recuperation and reconstruction, we must see that the national resources are developed to the full, and that the State renders all assistance in its power for the attainment of that object. Comfort is the surest preventive of anarchy, the best conditions of production. If abundance is not there you cannot distribute it. That is an obvious truth which the Bolsheviks seem to have overlooked. The Bolsheviks began with distribution and ended with distribution. Production did not concern them. That is the surest road to national poverty, and it is the Bolshevik method.

"The State must help, the State must promote, the State must encourage production; it must remove hindrances to production; it must insure that confidence and security which is essential to production. There must be no shrinking from national organization, national production and national assistance.

Storm Signals Appear

"In my Welsh home we have an invariable method of ascertaining when the storm is coming. There is a lighthouse behind the western hills. When the weather is fair and settled you never see its light. But now and again it illuminates the darkness, and you then know that the storm is coming. I have been scanning the horizon, and I can see flashes on the sky which indicate to me that there are grave atmospheric disturbances in the social and economic world. In the natural world you cannot with thinking avert the storm. In the more artificial world of human society you can, if you take heed in time, avert the hurricane. I give one advice to my countrymen, and I say it solemnly to them—take heed in time. And if you do we shall enjoy settled weather for the great harvest which is coming when the fierce heat of summer which is beating upon us in this great war will be over and past."

HEALTH WORK IN NORTH CAROLINA, 1917-1918

An Account of What the State Has Spent on the Health of Its People, and What It Has Received.

By DR. W. S. RANKIN, Secretary-Treasurer, State Board of Health

We assume that the people of North Carolina are interested particularly in just two things with respect to the work of the State Board of Health: (1) What the Board spends; (2) What the Board gets for the expenditure. This statement, therefore, will deal, in as brief a manner as is consistent with clearness, with the debit and credit side of the State's account with public health.

Just one additional introductory statement needs to be made—a statement in no sense intended as an apology but as simple justice to the Board of Health. The work of the State Board of Health, during the last biennium, has been seriously interfered with by two things: (1) The war; (2) The epidemic of influenza. The war called for a mobilization of medical men and health officers. The State Board of Health lost a number of its officers to the military service of the country, and it was not only impossible to replace our losses, but impossible to secure health officers for extensions in the health work that would have been made but for the war. The epidemic of influenza necessitated the cessation of much public health work for the reason that public health forces were concentrated on the epidemic.

Expenses of the State for Public Health

During the biennial period of 1917-1918, the annual income of the State Board of Health, including the Laboratory but not the Sanatorium, has been \$86,991.13.

Dividends on Investments in Public Health

Item 1. The State Laboratory of Hygiene has examined annually for the last two years 8,652 microscopic specimens, which would have cost the people and the physicians of this State, if examined in other laboratories, a minimum of \$1.50 per specimen, or a total of \$12,978. This \$12,978 is one dividend that is paid on the State's investment of \$86,991.13 in the health of her people.

Item 2. The State Laboratory of Hygiene has examined annually for the last two years 2,100 samples of drinking water. These analyses, if made by other laboratories, would have cost the State \$5 a piece, or a total of \$10,500. This \$10,500 is a second dividend paid on the State's investment of \$86,991.13 in the health of her people.

Item 3. The State Laboratory of Hygiene has treated annually for the last two years 336 citizens of North Carolina who had been bitten by rabid animals. It would have cost these citizens a minimum of \$15,000 to have secured this treatment outside the State. This \$15,000, then, may be regarded as a third dividend paid on the State's investment of \$86,991.13 in the health of her people.

Item 4. The State Laboratory of Hygiene has distributed annually for the last two years 248,876 doses of typhoid vaccine, 7,896 doses of whooping-cough vaccine, and 29,580 doses of smallpox vaccine, which vaccines, if purchased at the ordinary retail price,

would have cost a minimum of \$100,000. This \$100,000 is, then, a fourth dividend paid on the State's investment of \$86,991.13 in the health of her people.

Item 5. The State Laboratory of Hygiene has distributed annually for the last two years 2,412 doses, or 12,060,000 units, of diphtheria antitoxin. The antitoxin, distributed free of cost to the people in 1918, at the old retail price would have cost \$12,060. The antitoxin distributed in 1917, at about one-fourth the previous retail price of antitoxin, saved our people an additional \$9,000, making a total saving on diphtheria antitoxin of \$21,000 for the last two years, or an annual saving of at least \$10,000. But this by no means represents the total amount saved under this item to the citizens of North Carolina. Commercial manufacturers of antitoxin, in order to sell their product at all in North Carolina in competition with the State's free antitoxin, have had to cut their original price to one-third of what it was. The people are now paying only one-third of what they otherwise would have to pay for the antitoxin of private manufacturers. The arrangement of the State Board of Health for supplying antitoxin to the people of North Carolina saves our State not less than \$20,000 a year. This \$20,000 is, then, a fifth dividend paid on the State's investment of \$86,991.13 in public health.

Item 6. The State Board of Health has interested the International Health Board and the United States Public Health Service in opportunities for successful public health work in North Carolina to the extent of obtaining from these agencies, during the past two years, a total appropriation of \$43,757.19. In addition to this direct appropriation, we have secured from the above agencies the loan of health officials for work in North Carolina, without cost to the State, whose combined salaries during the time of their

work in this State have amounted to over \$16,000. In short, we have been instrumental in securing from outside sources, without cost to the State, during the last two years, \$60,000 worth of health work.

Item 7. A silver nitrate solution has been supplied to all the physicians and midwives of the State, with instructions as to the law requiring the application of this solution to the eyes of all new-born children for the prevention of gonorrhreal ophthalmia, or blindness in the new-born.

There occurs in North Carolina annually about 100 cases of gonorrhreal ophthalmia, or blindness in the new-born—a form of blindness that is prevented in 98 per cent of the births, where it otherwise would occur, by the use of the silver nitrate solution; in other words, there are 12½ cases of this preventable blindness for every 10,000 births. The State Epidemiologist believes that he is conservative in assuming that in at least half of the births occurring in the State, 40,000 births, the law requiring the application of silver nitrate is complied with. If this estimate is correct and if the prophylactic is 98 per cent efficient in preventing blindness, 49 cases of blindness are prevented each year through this law. Let us assume, however, that less than half of this amount of blindness is prevented—20 cases. It costs the State of North Carolina \$185 a year per blind child to give it an education with the hope of making it self-supporting. It requires at least ten years at the Blind Institution for the child to receive this education. This would make a total cost to the State for educating the blind child, as an effort to make it self-supporting, ten times \$185, or \$1,850; for twenty blind children this would be \$37,000. While estimates of the amount saved by this law will vary with the individual viewpoint, it will be admitted by all that this law is saving the State each

year many thousands of dollars, and saving some of the State's citizens a loss that is incalculable.

Item 8. The Board of Health was successful in securing the appointment of all the officers—State and county—concerned with quarantine work in North Carolina to the position of collaborating epidemiologist of the Federal Government. While the Federal Government pays these officials only \$1 per year in accordance with an act of Congress, the position of an official in the Federal Government permits the State and county quarantine officers to use the franking privilege which saves to the State and the counties not less than \$5,000 a year postage.

Item 9. Several years ago, the State Board of Health was responsible for a change in the management of outbreaks of smallpox. The change effected was shifting the responsibility of protecting the unvaccinated (the only susceptibles) from the community to the unvaccinated individual. In making this change, the State Board of Health did away with a system of smallpox quarantine and isolation which, according to reports from counties for the year preceding the change in the method of control, was costing the State \$66,000. Smallpox is one of the least significant factors in the State's death rate. As a result of the change in the method of control, there has been, apparently, no increase in either cases or deaths. It appears, therefore, that the Board of Health, through this policy of making the individual responsible for his susceptibility to smallpox instead of his community, is saving the State annually something like \$50,000.

Item 10. In 1914, for the first time in the history of the State, deaths from all causes were accurately recorded. In that year there were 839 deaths from typhoid fever; in 1915, 744; in 1916, 700; in 1917, 628, and in 1918, 502. There were saved, therefore, 839

less 628, or 211 lives from typhoid fever during the year 1917. There were saved 839 less 502, or 337 lives during the year 1918, or, during the two years, there have been saved 548 lives from typhoid fever.

The fatality from typhoid fever is 10 per cent; that is, 100 cases of the disease cause 10 deaths. A decrease of 548 deaths, therefore, was necessarily associated with the prevention of 5,480 cases of the disease. Taking the estimates of the value of the average life at the average age at death from typhoid fever, made by political economists of national reputation and based upon the life expectancy and earning capacity, the 548 lives saved were worth \$4,000 each, a total of \$2,192,000 of vital conservation.

The prevention of 5,480 cases of typhoid fever associated with this saving of 548 lives also has a money equivalent. The average case of typhoid fever lasts six weeks. The cost of treating an average case of typhoid fever, estimating the amount paid physicians, druggists, and nurses, and losses of salary or per diem on account of sickness, may be conservatively estimated at \$100 a case (usually estimated at \$200 each case), which amounts to a total of \$584,000 saved from sickness.

In this item it appears, therefore, that through the work of typhoid prevention as organized, directed, and carried on by the Board, and through the Board's previous efforts, there is a vital saving to the State of North Carolina estimated at \$2,740,000.

Item 11. The State law which requires that all plans and specifications for waterworks and sewerage systems shall be submitted to and approved by the State Board of Health, before being accepted by the municipalities for which the plans and specifications are designed, safeguards our towns and cities against the work of cheap engineers and contractors. To illustrate:

A town in this State, before this law went into operation, let a contract for the installation of a public water supply. The water supply was found dangerous on account of its location and had to be moved. The location of the water supply, had it been passed upon by the State Board of Health, would never have been approved. To change the location of the supply cost the town somewhere between \$10,000 and \$15,000. Many such losses have been saved the municipalities of the State by this law which requires that all plans and specifications for water supplies and sewerage systems be examined and approved by the engineers of the State Board of Health before being accepted by the towns and cities for which they are intended.

Item 12. The State Board of Health in its direction of the management of the influenza epidemic, believes and claims that when the epidemic has passed and the records are available comparisons with the other states will show that the influenza cases and deaths per thousand population in North Carolina compare favorably with the incidence of the disease elsewhere, and that in attaining these results the cost of handling the epidemic to this State was small, comparatively speaking. In the work of medical relief, sixty-four communities were served with seventy emergency doctors and sixty-one emergency nurses at a total cost to the State of \$1,266.37. We claim now, leaving the verification of the claim to the future, that in this work we saved many thousands of dollars to the State of North Carolina.

Item 13. Over 160,000 school children have been given a preliminary physical examination by school teachers in accordance with instructions and under the direction of the State Board of Health. About 48,700 of these school children have been given a second or complete physical examination by physicians and specially trained nurses in

accordance with instructions and under the direction of the State Board of Health. It is officially recorded that 10,670 of these school children have been treated. As a result of the above examinations and treatments, thousands of other school children of which we have no record have received much needed and proper treatment.

Item 14. During the first full year, 1918, of its existence, the Bureau of Epidemiology of the State Board of Health prescribed the method and supervised the quarantine of 29,785 cases of communicable diseases. As a further precaution against the unnecessary spread of communicable diseases, the teachers, pupils and patrons of 3,598 public schools were notified, through a well developed system, of the existence of communicable disease in the school community, of the dangers of the disease, its methods of spread, and the means for its control. In this way, many thousands of cases of contagions that would have occurred otherwise, causing many deaths, have been prevented.

Item 15. Probably the most important, certainly the most fundamental, health law that any state may enact is a vital statistics law. The vital statistics law of North Carolina requires the State to secure, and permanently preserve in a fire-proof vault, a complete record of the two principal events in the life of each citizen—the birth and the death of the citizen. The State holds that not one of its citizens is so humble that his coming and his going should not be taken official note of. An annual average of 77,000 births and 34,000 deaths are registered, card indexed and classified by race, sex, age, county, township, town or city, and by cause of death.

For the individual, these records mean that each child may be enabled to keep track of its ancestors—father, mother, grandparents, great grandparents, collateral kin. Each individual

will be enabled to prove his or her age in the courts, his or her right to suffrage, the right to marriage, the right to insurance, the right to enter various industries, the right to inheritance, etc.

For the State, this law means that the number of deaths per thousand of the population occurring in North Carolina, or in any county or township, or town or city of the State, shall be known. It means that the number of births per thousand of the population in the State, in the counties, in any part or subdivision of the State, shall be known; that by comparing such figures with similar figures from the other states of the Union, the people of this State, the people of other states and of the world, may know, not guess, what health conditions in North Carolina are.

Best of all, this law has shown and caused to be published on the authority of the United States Government, the fact that the State of North Carolina is one of the healthiest in the Union. This is the meaning of our death rate of 13.0 per thousand of the population per year, and our birth rate of 31.9 per thousand of the population per year, as compared with the average death rate of 13.9 and birth rate of 24.8 of the registration states of the Union for the same year—the last year for which the figures are available.

Item 16. A continuous and extensive educational campaign has been waged against unhygienic and insanitary conditions in the homes and communities of the State. This has been carried on in the following manner: THE HEALTH BULLETIN has been mailed to an average of 48,000 people monthly; specially prepared leaflets, pamphlets and placards have been distributed upon request to an extent exceeding 30,000 monthly, daily articles have been supplied to the newspapers of the State for publication, these having been used in publications having a cir-

culation in excess of 1,125,000; a total of 12,816 letters have been written; motion pictures featuring health subjects in an entertaining manner have been witnessed by approximately 58,298 people; approximately 19,971 people have witnessed illustrated health lectures; approximately 52,285 people have witnessed special health exhibits. The value of the results attained by these efforts is something that cannot be estimated in dollars and cents. The value of any educational movement is an intangible quantity. The Bible, the work of the ministers and the churches, the school system, the press, all are vital agencies upon which no exact value can be placed, but of such tremendous importance that no sane person would argue for the suppression of any. In like manner the educational work along health lines cannot be valued exactly. It has carried information and instruction to the people of the State, reaching directly at least one-half of the population. "Line upon line, precept upon precept," the prevention of disease has been preached, and the deaths from preventable diseases have been materially reduced.

Item 17. The State Board of Health, by its educational activities, has fostered, strengthened, and directed an interest on the part of the counties in local health work so that today North Carolina has sixteen counties, embracing a total population of 687,634, or 28½ per cent of the population of the State, under whole-time county health officers. No state in the Union has developed its county health work to a like extent.

Item 18. In nine of the sixteen counties referred to in Item 17, the State Board of Health has had direction of the county health work for a period of fourteen months, and in that time the amount of work accomplished is indicated in the following tabulation:

1. 969 public health meetings were held with a total attendance of 87,450.

2. 815 health articles were published in the county papers.

3. 7,364 homes constructed sanitary privies.

4. 20,834 people were examined for hookworm disease, and 3,928 were treated.

5. 479 schools were visited by health officers.

6. 38,969 school children were examined by the teachers working under the direction of the health officers.

7. 12,699 school children were examined by the health officers, these children being referred by the teachers.

8. 6,171 defective children were treated.

9. 1,528 adults were given physical examinations by the health officers.

10. 37,234 people were vaccinated against typhoid fever.

11. 6,450 people were vaccinated against smallpox.

12. 4,356 cases of infectious diseases were quarantined.

Item 19. The executive office of the State Board of Health rendered considerable assistance, possibly amounting altogether to two months full time service, to the Council of National Defense, the Surgeon General of the Army, and the Medical Aide to the Governor in the preparedness program of the country.

Item 20. To indicate the general business handled by the State Board of Health, the official correspondence, during the last two years, has amounted to a receipt of 92,550 letters and 104,120 replies. This is equivalent to a daily correspondence of 126 letters received, and 142 replies. This does not include the preparation and mailing of 110,704 multigraph letters.

All utensils with which milk comes in contact should be rinsed, washed and scalded every time they are used.

When a baby is bottle-fed, every time each feeding-bottle and nipple are used they should be rinsed in luke-warm water to which a small amount of boracic acid has been added, and then scalded.

SAVE THE BABIES

BY PRENATAL CARE

Many of the Useless Deaths of Infants Caused by Lack of Care Before Birth

By MRS. KATE BREW VAUGHN

When, from the time of the closing of the gates of Paradise, the wrathful edict of Jehovah thundered out after the fleeing form of the mother of us all: "In pain shalt thou bear thy children," to the present, the woman has bowed her head to the decree and borne the punishment, if such it can be termed, with grim fortitude and heroism. But there have always been some on whom this punishment has fallen lightly, and it seems that the women of the freest, most primitive life have, in a large measure, escaped the horror and the danger of child-birth of the more civilized or sentitive people. It is proverbial that the Indian woman keeps her place in the march until "her hour" has come, and shortly thereafter resumes it with her burden upon her back; the peasant women of all countries living free and primitive lives neither dread nor evade maternity. Our own great grandmothers in a new country, beset with hardships and stripped of all conveniences and luxuries, brought into the world the men who built the ideals and supplied the material structure of this Nation, and this largely without the benefit of the medical profession, which had fewer members in the new country than the ministry; and this same woman found five days lost from her work all that could be spared to issue into existence a Washington or a Lincoln. It is to be noted that many more of those sturdy women than we would like to contemplate died of child-bed fever and the attendant ills of confinement. It was not unusual to lose 25 per cent of the family before the first year of their age had been attained. The succeeding generations have found a declining birth-rate and

an increasing dread on the part of women of the maternal experience.

There is in one of the northwestern cities, a little Polish mid-wife who, aside from stirring the men of her own nationality to enlist in this war, has performed a signal service for the country of her adoption during the two years of war. She is a pathetic little creature, weighing 95 pounds, born thirty-five years ago in Russian-Poland and left, early, an orphan and at the mercy of a pitiless neighborhood. She was brought to America at the age of sixteen by a thrifty family who saw in her an excellent and an inexpensive servant, on whose shoulders were placed burdens which should rightfully belong to a stevedore of husky proportions. All her life she toiled like a slave for a small recompense, and at twenty years of age she married a "squatter" on a small farm. An accident which caved in his ribs, made hard work impossible for him. The toil-hardened woman wrestled like a miniature Titan with the cut-over ground, which was fertile enough after it had been gotten at through a network of rocks and stumps, while the husband whose ribs were crushed past hard work, took care of the house and children in her absence. The fact which stands out most is not her successful farming, which in itself is a bigger job than most men can accomplish, but the fact that not content to have brought into this world eleven lusty infants of her own in the past eighteen years, she has in her rural community relieved the fears and given physical comfort, in the absence of a physician, to over an hundred mothers and babies.

It is told that one morning last April she not only delivered herself of two beautiful girls, twins, numbers 12 and 13 of her family, but she washed and dressed them and afterwards prepared breakfast for the balance of the family, which embraced

the husband with the caved in ribs, who could do no heavy labor. What is the mysterious balance which inheres in the constitution of some women and not in others? Is it a matter of inheritance or physical training or muscular and structural proportion and development? What part does the life, activity and training of the growing girl play in the determination of her subsequent maternal competency? What relation do dress, exercise and diet bear to this all important subject? How far this maternal competency may be furthered by proper care and medical advice is being demonstrated in states emphasizing prenatal and infant hygiene work.

Reports of the Department of Vital Statistics of the State Board of Health, show 74,795 births in 1917, of which 3,153 were still births. During the same year 11,749 children under five years of age died from all causes. Diarrheal diseases caused the deaths of 2,626 babies, 1,456 of whom were under one year of age, and 1,170 were in their second year. Congenital debility, lack of care, etc., were the cause of 2,046 deaths, most of which occurred during the first month of life. Four thousand six hundred and seventy-two deaths of children under two years of age from diseases largely preventable by proper education of the mother in care and feeding. Three thousand one hundred and fifty-three still born babies, many of whom might have been saved by a reasonable knowledge of prenatal hygiene and the means for obtaining such for herself by the mother.

It is true, of course, that pregnancy and childbirth are usually normal processes, but not always. Fortunately, most abnormalities and unusual conditions give timely warning of their occurrence and in many cases may be relieved by simple methods or lend themselves to treatment which should lead to a successful termination. In former times every woman who gave

birth to a child or passed through a miscarriage was exposed to great danger of infection and child-bed fever, but at present, thanks to the recognition of the bacterial origin of the disease, this danger can be practically eliminated by the rigid observance of surgical cleanliness and hygienic conditions on the part of patient. It has also been found that the most effective method of combatting any of the complications of pregnancy is by preventing their occurrence altogether. Failing in this, to take them in their earliest stages for treatment.

Only of late and to a limited degree has it been realized that expert supervision is necessary for every woman during pregnancy. If complications of this period and of confinement are to be prevented or cured, such supervision is necessary for the reduction of the maternal mortality rate. That physicians should realize these facts is not enough; women and their husbands must realize them also, otherwise, women will not consult their physicians early or regularly during pregnancy, nor will their husbands be willing to pay for this added service. Every expectant mother in North Carolina is entitled to the advice of a well trained physician, physical examination, including pelvic measurement, frequent examination of urine, and necessary dentistry. It is her right to expect ample nourishment, sufficient rest and sleep, work and exercise moderated to prevent fatigue, proper clothing and the possibility of recreation. The woman should have at least one week in bed after birth and should not resume her household work for at least a month following confinement, in order that she may recuperate from the strain and produce milk for her offspring. If the mother resumes her work at once, the energy from her food will be expended in that labor, instead of into the breast milk for her baby.

Assistance necessary to make confinement safe, demands special training and should be looked upon as a special branch of surgery. The best surgeon available is called in to operate for appendicitis or to set a fractured bone; a trained veterinarian is called in for valuable stock, but frequently a woman, at the head of the whole machinery, is attended by a superstitious mid-wife who is none too clean. The financial value of a baby is \$90. The economic value of a mother between twenty and thirty years of age is \$4,100, to say nothing of the spiritual and humane aspects of the case.

It has been proven that nursing service is invaluable in supplementing medical supervision during pregnancy, and this is particularly true in the country where the distance from the physician makes it difficult to see him regularly. A nurse who has had special training and experience in prenatal work and who is especially equipped to discern danger signs in pregnancy, will be of great help to the expectant mother in the country and to her physician.

Great possibilities are in store for those who apply themselves to the problems of prenatal care as part of a campaign for reduction of infant mortality. This will call for coördination of all factors and the unselfish application of means at command. The material reduction of infant mortality will be impossible unless the two causes, congenital diseases and diarrheal diseases, are attacked from individual or special standpoint. The later diseases can be taken up after the child is born. Information for this campaign is available through the birth registrations daily received at the office of the State Board of Health. The former must be attacked before the birth of the child. Information upon which the campaign is based must come from individual sources.

Ignorance is one of the main causes

of illness and death among babies and is due either to the fact that parents do not want to learn or because opportunities for information have not been given them. Most mothers are anxious to be taught how to care for their babies, how to keep them well through the hot summer, what to do before the doctor comes in an emergency, such as croup or convulsions; how to nurse a sick child, or a mother and new born baby at home. These are all questions which most women are anxious to learn all they can, and the number who do not know because of lack of opportunity is greater than the number who do not want to learn, or the neglectful ones. We cannot compel mothers to take the proper care of their babies and we cannot legislate this righteousness into them, but we can gain their confidence and coöperation, qualities which bring definite results.

The success of prenatal and infant hygiene work depends upon:

(1) The coöperation of counties in employing (a) Whole-time health officers whose duty it will be to examine and treat those whose condition in life prohibits the engagement of a family physician and the means of securing proper instruction and advice in cases of unusual character; (b) A visiting nurse who will visit, advise and assist all mothers or expectant mothers, giving particular attention to primiparous women, to delicate children and babies artificially fed; (c) Maintain an office available to the mothers and children of the county; (d) Hospitals accessible to all parts of the county by means of good roads for complicated cases. If the public could be taught that such service could be obtained, the mid-wife problem would adjust itself and hospitals for maternity cases would increase in popularity by the force of the excellent results of their service; (e) The licensing and intelligent local supervision of mid-wives.

(2) Securing the coöperation of all physicians in availing themselves of the service of the State Board of Health and the visiting nurse, where such obtain, so that mothers who come under their supervision may be instructed in hygiene of pregnancy and referred to them in the event of untoward signs or symptoms.

(3) Securing the interest and co-operation of commercial and philanthropic organizations in establishing prenatal and infant health work.

(4) Securing the coöperation of women's clubs, demonstration agents, ministers, in incorporating this propaganda in their educational work.

(5) Securing the coöperation of the press.

In order that the principles of prevention may receive fullest application during pregnancy, it is advisable that intelligent women should have some knowledge of the reproductive processes in human beings. Prenatal care and its proper application includes care of the infant during the most crucial period of its existence, the first month.

While we are of the opinion that the best form of educational propaganda is personal contact with the mother, in the absence of sufficient means for this, we feel that literature which will reach them at stated intervals may awaken their interest or keep it alive in case it has already been generated. We must set them thinking of the importance of prevention as compared with correction, and we must give them such corrective measures as is possible.

With the world conflict ended gloriously, but at great cost in human life, we can easily see that the fortune of a nation is the healthy babies to take the place of the men sacrificed to make this victory possible. With the hope of giving this information and advice where it is needed, we have available for distribution free literature which

deals with the different phases of this expectant period and the early years of a child's life. We will be glad to send this information to you or your friends, and will be glad to have registered with us expectant mothers as early in their pregnancy as possible, so that each one may get the benefit of the advice we have to offer.

FACTS ABOUT PUBLIC HEALTH NURSING

Contributed by DR. L. B. McBRAYER

More Public Health Nurses are Needed

The demand for public health nurses which was already greater than the supply, has been increased by the war and by the recent epidemic of influenza, during which the public health nurse has so fully proved her value, not only by care of the sick, but by the education of the community in preventive measures. The social readjustments of reconstruction will make the need and the demand for public health nursing limitless.

To supply this demand there must be more courses established in hospitals and universities for the additional training needed by public health nurses. These courses must include field work in other adequately supervised social agencies. Scholarships must be secured to enable young women to take this training. A sense of value of the work and a recognition of the importance of the women who perform it must be developed in the public mind in order that women of talent and intelligence may see the opportunity which this field offers them.

The Aim of Public Health Nursing
Is to maintain the health of a community by educating every member of the community in the principles and methods of hygiene, sanitation, the spread of disease and the prevention

of disease, and by providing adequate and equal care for all who need care.

Ideally, a community should be divided into districts with a sufficient number of public health nurses in each district to care for all the people within it. "The safest foundation on which any public health work may be built is the general nursing care of all the sick of the community, irrespective of class, age or type of disease."

The Public Health Nurse

Must be a graduate nurse of a recognized hospital and should have taken additional training, either during or after her regular course, in public health service. This additional training in properly supervised agencies other than hospitals is necessary because of the social and economic problems she is forced to meet and the necessity of her coöperation with all other public agencies.

The Work of the Public Health Nurse
Includes care of mothers and babies, school nursing, industrial nursing, tuberculosis nursing and medical social service nursing. The public health nurse may specialize in any one of these fields, but in small communities usually serves in all capacities.

The University of North Carolina
has recently added to its library books and literature on public health nursing which can be borrowed in the same way as other things from this library. Those interested should address Dr. L. R. Wilson, Librarian, University of North Carolina, Chapel Hill, N. C.

The State Red Cross Seal Commission
has appropriated \$1,000 to aid nurses in North Carolina who will afterwards do public health nursing in North Carolina in taking a course in public health nursing. The scholarships will not be less than \$50 nor more than \$100. For further information address Miss Rose M. Ehrenfeld, State Director, Public Health Nursing, Sanatorium, N. C.



The

Health Bulletin

Published by THE NORTH CAROLINA STATE BOARD OF HEALTH

This Bulletin will be sent free to any citizen of the State upon request.

Entered as second-class matter at Postoffice at Raleigh, N. C., under Act of July 16, 1894
Published monthly at the office of the Secretary of the Board, Raleigh, N. C.

Vol. XXXIV

MARCH, 1919

No. 9

Advancement—improvement in conditions—is the order of things in a society of equals.—Lincoln.

RECOMMENDATIONS OF THE NORTH CAROLINA STATE BOARD OF HEALTH TO THE GENERAL ASSEMBLY OF 1919

One. That diseases and deaths caused by fecal infections be decreased by making the more dangerously located insanitary privies sanitary.

Two. That adequate and proper treatment for public school children suffering from physical defects be provided.

Three. That the State make provision for financial participation with the Federal Government, the counties, and other agencies interested in the development of rural sanitation.

Four. That the State co-operate with the Federal Government in its program for the prevention of venereal diseases.

NOTICE TO READER.—When you finish reading this magazine place a one-cent stamp on this notice, hand same to any postal employee and it will be placed in the hands of our soldiers or sailors at the front. NO WRAPPING—NO ADDRESS.

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RECOMMENDATIONS OF THE NORTH CAROLINA STATE BOARD OF HEALTH TO GENERAL ASSEMBLY 1919

The First Recommendation

A general law should be enacted making it compulsory for the owner of property on which a closet is located within three hundred feet of the dwelling-house of any other person, to maintain a sanitary closet in accordance with plans and specifications approved by the State Board of Health. Such sanitary closets would prevent the undue spread of typhoid fever, hook-worm, intestinal tuberculosis, and other intestinal diseases. Besides many diseases are brought on by the absence of commodious, sanitary, and convenient toilet facilities.—Governor's Message to the General Assembly.*

The North Carolina State Board of Health recommends, *First*—

THAT A STATE LAW PROVIDING FOR THE SANITARY CONSTRUCTION AND MAINTENANCE OF SUCH PRIVIES AS BY REASON OF LOCATION ARE ESPECIALLY DANGEROUS TO HEALTH AND LIFE, BE ENACTED. Considerations on which this recommendation rests are as follows:

DEATHS AND SICKNESS FROM FECAL-BORNE DISEASES

The swallowing of human excrement, fecal infections, causes 2,000 deaths and 35,000 cases of sickness annually in North Carolina.

There are 1,106 deaths and 17,080 cases of sickness due to typhoid fever and dysentery, diseases originating SOLELY from fecal infections. There are 2,626 deaths and 52,000 cases of sickness due to diarrheal diseases of

infants under two years of age. While estimates by different authorities give varying percentages of this disease as due to fecal infections, it is a conservative estimate to claim that 33 per cent of this disease is fecal in origin (some authorities would place this percentage as high as 80 or 90 per cent). If this be so, we must add to the typhoid and dysentery deaths and cases of sickness 875 deaths and 17,350 cases of sickness from diarrheal diseases of infancy. Our account against fecal infections, then, stands as follows: Deaths from typhoid, 502; dysentery, 604; diarrheal diseases of infants, 875; total, 1,981. Cases of sickness, typhoid, 5,020; dysentery, 12,080; diarrheal diseases of infants, 17,350; total, 34,450.

THERE ARE THREE ROUTES OF FECAL INFECTION

Human excrement reaches its victims by three routes: *Route I.* Excrement is deposited on the ground or in an open privy and washed by rain over or through the soil into a well or spring from which drinking water is obtained. *Route II.* Excrement in minute and invisible amounts may soil the hands (it is the general rule to find, the rare exception not to find, by suitable laboratory methods, intestinal bacteria on the hands of people), and be passed in handshaking or in the handling of eating utensils or food to a second person. This form of infection is known as contact infection. *Route III.* Excrement is carried by flies from open, insanitary privies to kitchens and dining-rooms, to food, and thereby to its victims.

*Meaning yards instead of feet.

If the first route, or the water route, were largely responsible for our fecal-borne diseases, we should expect to find that these diseases, as typified by typhoid, would be most prevalent during the heavy rainfall months, that is, during the winter and spring. If the second route, or the contact route, were most responsible for our fecal-borne diseases, we should expect to find these diseases evenly distributed over the twelve months, with a slight increase in their prevalence during the cold weather, for human contact is about the same throughout the year, being slightly closer in cold weather when people are driven indoors. If the third route, or the fly route, were largely responsible for fecal-borne diseases, we should expect to find these diseases, typified by typhoid, most prevalent when flies are most numerous. We should expect these diseases to be lowest in the winter, begin to increase in April and May, and reach their maximum in August, and decline with the coming of the cold weather of fall and winter. This is precisely what we do find. The following diagram shows this conclusively:

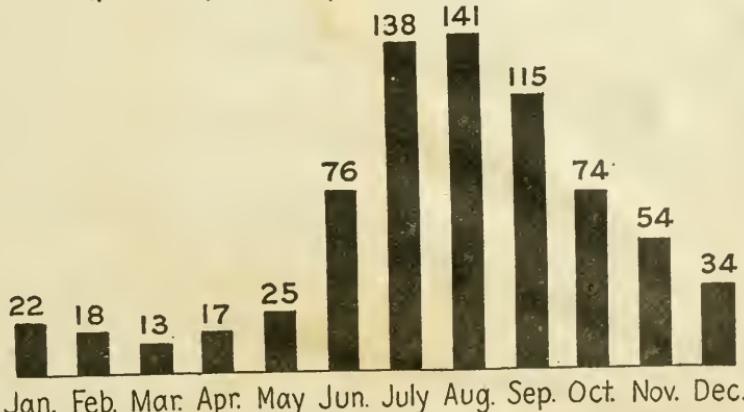
The fly increases and decreases with the rise and fall of the thermometer, and typhoid fever as a type of fecal infection comes and departs with the fly. *The evidence of the diagram, both the positive evidence and the negative evidence, proves that the fly, armed with feces, is the principal cause of fecal infections in this State.*

KILL THE FLY OR DISARM HIM

We must either do away with the fly as the conveyor of fecal infection, or we must make it impossible for the fly to get the infectious material, human excrement, with which he does his deadly work. It is far cheaper and simpler to follow the latter course—to make it impossible for the fly to secure and carry human excrement to food. This latter end may be attained by making privies sanitary. To make a privy sanitary is to construct it so that the part of the privy containing the excrement is (1) inaccessible to flies, and (2) not dangerous, through the possibilities of surface washings or percolation into wells, springs, or streams, to drinking water.

MONTHLY VARIATION IN TYPHOID DEATHS (N.C. average for 4 years)

High rate in summer and fall due largely to flies coming from open-back privies to unscreened houses.



SOME PRIVIES VERY DANGEROUS, OTHERS FAR LESS DANGEROUS

All insanitary or open privies are not equally dangerous. The danger of any open or insanitary privy is in proportion to the size of the population to which it is related either by the fly route or water route. An open, insanitary privy located in the average town or city block is within 300 yards, that is, fly range, of from 16 to 20 homes with a total population of from 90 to 120 people; an open, insanitary privy located in the average rural section is within 300 yards of only one home of from 5 to 7 people. Actual figures bear out this statement. In purely rural sections of this State there is one case of typhoid fever per thousand population a year, whereas in the unsewered village, town, or suburban section there are from five to six cases of typhoid fever per thousand population a year. An open, insanitary privy located on the watershed of a public water supply is another dangerous closet that by the water route (the possibility of pollution washing into the public water supply) threatens the health and lives of many people instead of only a few. There is another important difference in the potential danger of the two types of privies—the country privy in infectious contact with one home and the urban privy or privy on the watershed in infectious contact with many homes. The evil effects of the country privy are of a suicidal character, injuring only those who use it and are responsible for it; but the evil effects of the town privy or unsafe privy on the watershed are of a homicidal character, injuring those who have no responsibility for it and no control over it. The bill that will be submitted to the General Assembly to meet this recommendation of the North Carolina State Board of Health is directed against these two dangerous types of privies, against homicide by feces.

ADVANTAGES OF STATE OVER LOCAL SUPERVISION

Local supervision has proved a failure. It is true that a number of towns and cities in the State have enforced both the construction and maintenance of sanitary privies, but the percentage of the urban population of the State living in these places is relatively small. The larger cities of the State,

those with populations of 20,000 and more, have, with only one or two exceptions, adequately manned and financed health departments through which they have enforced proper privy regulations. The bill, therefore, exempts the larger cities of the State with adequately manned health departments from its provisions, unless some of these cities desire to take advantage of this legislation. The majority of city authorities will see in this legislation two distinct advantages: (1) Local privy regulation, as evidenced by its inadequacy, is regarded by municipal authorities as a political liability and not a political asset. It is believed, therefore, that the municipal authorities of North Carolina will be pleased to have the State Board of Health (as far removed from political action and reaction as it is possible to have an administrative body) assume a responsibility that they regard as important but, at the same time, distinctly disagreeable; furthermore, the State health authorities will have greater weight, will be less personal and less objectionable with those concerned in the construction and maintenance of privies than local inspectors. (2) The towns and cities of the State will find in this legislation the advantage of saving to themselves the expense of the quarterly inspections of watersheds which they have been required to make.

SIZE OF POPULATION SERVED, REVENUE, INSPECTION FORCE

The bill that will be submitted for the consideration of the General Assembly embodying this recommendation will relate to a total population of from 500,000 to 600,000 people that make use of from 75,000 to 80,000 privies. The bill imposes an annual inspection or license tax of forty cents on the owner of each privy, and in this way supplies a fund of approximately \$30,000 a year for the execution of the law. With \$30,000 a year, the State can be divided into ten sanitary districts averaging ten counties each, and an intelligent sanitary inspector placed in charge of each district. The qualifications of these inspectors will be those of an intelligent policeman. Each inspector will cost probably \$125 per month, and will need \$100 a month for traveling expenses. For getting about in their district, the inspectors will use

motorcycles. In charge of the ten inspectors will be a sanitary engineer who, in addition to seeing that the inspectors perform the work required of them in a satisfactory manner, will study, devise, and recommend suitable types of closets for the different sections of the State and for the different conditions found among our people.

VALUABLE BY-PRODUCT

A by-product of this law, almost of equal value to the regulation of privies, will be its provision of an adequate force of sanitary inspectors who will not only see that privies are properly constructed and maintained, but who will make other inspections now required of the State Board of Health, and be useful in the enforcement of existing public health laws, more especially the quarantine and vital statistics laws.

PRICE AND PURCHASE

In considering the cost of this measure of safety, we have to think of both the cost to the individual owner of the privy and the cost to the State as a whole. The owner of the privy pays the State forty cents; the State in return protects him from the unsightliness, the offensive odors, and the fecal-borne diseases of from six to eight insanitary privies within 300 yards of his home. Does he get the worth of his money? Will he be satisfied?

The State, in enacting the law, provides for the collection and expenditure of \$30,000 in inspection taxes annually. The State, in failing to enact the law, provides for the unnecessary loss of at least 365 lives—one death each day of the year—and the unnecessary occurrence of 6,300 cases of sickness. This estimate assumes that we prevent only 18 per cent of the deaths and sickness now due to fecal diseases—a censurably conservative estimate.

The issue, then, is this: Which shall the State yield, \$30,000 in inspection taxes or 365 lives and 6,300 cases of sickness in human values? And what is the value of this human material? In the days of slavery it had a value; it has not lost it. Juries, courts, give it a value now, based on earning capacity and longevity. If the 365 lives saved are worth \$1,000 each, we shall have saved \$365,000 worth of human

economic values; if the 6,300 cases of sickness prevented would have cost our people in doctors' bills, druggists' bills, nursing, time lost from labor, \$30 apiece, we shall have saved an additional \$189,000, or a total saving in human economic value of \$554,000. Shall the State withhold \$30,000 annually in inspection taxes, or \$500,000 in human economic values?

But we must not forget that life has another value than its economic value, than its meat value, than the value of the horse, than the value of the sheep. "How much better is a man than a sheep." "The life is more than meat, and the body is more than raiment?" The economic or meat value depends upon the power of the flesh to act as a transforming machine on the sun's rays, absorbing the rays directly or indirectly, and converting them into some form of energy available for service. The human body is more than a transforming station for sun's rays; it is a shrine, it has the value of a holy temple which lifts it to other and higher considerations than that of the money-changers.

The Second Recommendation

Every child has a natural right to have any mental or physical defect corrected, if it be in the power of medical or surgical skill. The incidental fact that the parents may not be able to pay for the necessary treatment in no way affects the right of the child. The General Assembly of 1917 made a wholesome start in this direction by the enactment of chapter 244, Public Laws of 1917, but the scope of that chapter should be greatly enlarged and the appropriation increased from ten to at least fifty thousand dollars per annum. We cannot claim to maintain an intelligent, much less a Christian civilization, if a child be allowed to stagger through life under the handicap of a mental or physical infirmity for the want of a few dollars. Indeed, it is an economical blunder for society to permit an adult to become a mental or physical derelict for want of proper surgical or medical treatment. It is cheaper to correct these infirmities than to pay for the upkeep of these derelicts in charitable institutions.

The North Carolina State Board of Health recommends, *Second*—

THAT A LAW BE ENACTED PROVIDING FOR THE EXAMINATION AND TREATMENT OF DEFECTIVE SCHOOL CHILDREN. The considerations on which these recommendations rest are as follows:

"North Carolina's greatest resource is its child-life." Practically everybody now admits that the first requisite for the safety and prosperity of a State rests upon the physical fitness of its citizens. Thirty-eight per cent of the young men between twenty-one and thirty-one years of age called out in the draft of 1917 were physically unfit to go to war on account of diseases and conditions which could have been prevented to a large extent if treated in their earlier years. In one county alone, of seven hundred young men examined, six hundred and seventy-eight, or all but twenty-two, had already lost one or more of the first four permanent teeth which a child "cuts" at six years of age. Every one of those teeth could have been saved by proper treatment and care if done under fourteen years of age. A defective child, neglected, grows into a liability to the community; if given proper care and assistance at the right time, the same child will become an asset to his community.

There are 803,257 children of school age in North Carolina. Within the past four years the State Board of Health has supervised the examination of about 200,000 children. This work was done by teachers, trained nurses, and physicians. Children of all classes, ages, and conditions of both sexes and colors have been included. This work has been done in all parts of the State, from counties as far west as Madison, Swain, and Macon to the eastern counties of Currituck and Camden. Upon a most conservative opinion as to diagnosis, these records show that more than 80 per cent of the school children need dental treatment; more than 10 per cent have diseased throats; and more than 5 per cent have defective vision and hearing. This does not include the many cases of grosser troubles as incipient tuberculosis, malaria, hookworm, and serious under-nourishment. Forty-five per cent of all school children who fail to pass beyond the seventh grade fail for physical reasons either incident to themselves or their parents. For the State

to neglect these children means ever-increasing demands on the department of education for extra facilities to provide for grade repeaters, wasted school efforts, and a large per cent of adult illiterates arriving at maturity each year. It means taxing the State's resources more and more heavily to provide for the insane, the tubercular, the feeble-minded, and the indigent.

Now, what is the most practical thing to be done in order to most intelligently cope with the problem? From an administrative standpoint alone, it would be impossible to undertake a comprehensive plan for the examination and treatment of the children of all the State every year; therefore, the bill as presented to the General Assembly provides for a program to be rotated every three years, for the present. The bill provides three distinct features: (1) for a preliminary physical examination by the teacher; (2) for a reexamination by an agent of the State Board of Health; and (3) provision for the treatment, special and dental, of about 30,000 children each year. The special appropriation requested in the bill is \$50,000 annually. For that sum the following things could be accomplished: First, the re-examination of all defective children first reported by the teachers; second, the operation by the best specialists working through the club plan of about 6,000 children, the fitting of eyeglasses by competent oculists of about 2,000 children; and third, the dental treatment through public clinics of about 22,000 children. This work, if left to private arrangement, would never be done for 90 per cent of these children; but if done for all would cost at least \$300,000. These figures are based upon most conservative estimates. Thus, after totaling all the possible cost to the State and the counties, 30,000 children will receive treatment, a majority of whom would not otherwise, at a saving of at least seventy-five cents out of each dollar.

The Third Recommendation

The North Carolina State Board of Health recommends, *Third*—

THAT RURAL HEALTH WORK BE PROVIDED FOR BY AN APPROPRIATION CONDITIONED UPON SUPPLEMENTARY APPROPRIATIONS

FROM OTHER SOURCES, MORE ESPECIALLY THE FEDERAL GOVERNMENT, IN THE PROPORTION OF NOT LESS THAN \$2 FOR EVERY \$1 EXPENDED BY THE STATE. This recommendation rests upon the following considerations:

CONSIDERATIONS BEARING UPON THE RELATIVE IMPORTANCE OF RURAL HEALTH

The *first* consideration is that in North Carolina 90 per cent or 2,100,000 of a 2,400,000 population is rural. The country, therefore, in this State affords by far the larger opportunity and imposes the heavier obligation for health work.

The *second* consideration is that the rural people, as compared with the urban people, are less able both in knowledge and in per capita wealth to safeguard their health and lives, and are, therefore, most in need of assistance.

The *third* consideration is based upon the condition of rural health. While the Federal Government by its own methods of examination, applied to something like 10,000,000 men drawn from all walks of American life and from the healthiest age group—from 21 to 31 years of age—has pronounced 38 per cent of those examined physically unfit for military service, it has found through the records of the office of the Surgeon General that rural people are more susceptible to infections and succumb more readily to infections than urban people.

The explanation of the lower ebb of vitality of rural people as compared with urban people probably lies in the greater prevalence of the subacute, devitalizing, crippling diseases in the country. As such diseases may be mentioned malaria, almost entirely rural and affecting 10 per cent of our people; hookworm disease, also almost entirely rural and affecting about 30 per cent of the people; chronic constipation, affecting 20 per cent of the people; suppurating gums, affecting 30 or 40 per cent of the population; lacerated female genital canals, affecting a large part of the child-bearing population and more rural than urban; the common physical defects of childhood, adenoids, tonsils, defective vision, and bad teeth, all astoundingly prevalent and more frequently encountered among rural people than in the towns and cities.

The relative importance of these crippling diseases is not properly appreciated. They are prevalent because they do not impose pain or discomfort of such intensity as to cause their victims to react against them, to apply for and carry out effective treatment. Like small taxes gradually increased over long years, they take from the people a total of vitality and efficiency which if compared with our account against the killing diseases, tuberculosis, typhoid fever, pneumonia, and other acutely fatal diseases, would cause this latter group of diseases of more spectacular action to be regarded as of less relative importance. Our more important vital losses—like our financial losses, in driblets, pennies, nickels, dimes, and an occasional quarter—are in little drafts, long continued.

In conclusion, the need for rural health work rests upon (1) the larger size of the population involved; (2) the relative lack of knowledge and means among the rural people for dealing with matters of sanitation and hygiene; (3) the lower vital stamina of rural people probably produced by the greater prevalence of crippling diseases among them.

HEALTH OF RURAL PEOPLE A COMMON INTEREST TO ALL DIVISIONS OF GOVERNMENT

On the efficiency of the rural population the production of food and clothes—the cost of living—depends; therefore, conditions affecting rural life are a matter of profound interest, not only to the rural population but to the entire population; a matter of concern not only for the rural or county governments, but for the State and Federal Governments as well.

Already certain important and common interests relating to rural welfare have been recognized and provided for by a coöperative plan with financial participation by the three branches of our Government, Federal, State, and County. The three common interests so far recognized and cared for are: (1) construction and maintenance of roads; (2) farm-life demonstration work; and (3) vocational education.

The principles that have become established in this country for dealing with these major common interests are: (1) the financing jointly of the rural problem by the three govern-

ments concerned; (2) the expenditure of the pooled funds on a plan of work approved by each of the financial participants. For example, in providing for good roads, the Federal Government makes an appropriation which is apportioned to the States on an equitable basis. Each State apportionment becomes available when the State appropriates a sum equal to that received from the Federal Government, and the combined State and Federal fund is available for the counties that appropriate definite supplementary sums.

The health of the rural people, conditioning the production of food and clothes—the cost of living—is a common interest of transcendent importance to all branches of the Government—Federal, State, and County—and should be taken care of according to the established precedent and practice of financial participation and governmental coöperation in dealing with common interests of major importance.

PROSPECTS FOR FEDERAL FINANCIAL PARTICIPATION IN ASSISTING IN RURAL HEALTH WORK

Hon. A. S. Lever, Chairman of the Committee on Agriculture in the United States Congress, has just introduced H. R. 14185, which recognizes rural sanitation as a matter of common interest to all three branches of the Government, and makes a Federal appropriation for meeting the Federal obligation to rural health work. Mr. Lever is one of the most constructive and influential leaders in Congress, and has either initiated or taken a prominent part in all legislation that has to do with the common interests of our governments in rural conditions. Practically the entire Committee on Agriculture has endorsed the bill. The Committee on Rules has agreed to permit the bill to come up for special hearing. Judging from reports, there seems to be an overwhelming sentiment in Congress for this legislation. The prospects for the bill's becoming a law are exceedingly bright.

If the bill passes, North Carolina will receive as her apportionment \$36,399.33, conditioned upon the State's making an appropriation for rural health work of an equal amount, the combined Federal and State fund then being available for those counties that appropriate supplementary funds for rural health work.

The plan of rural health work on which the joint funds will be expended is to be approved by all three participating governments, county authorities, the State Board of Health, and the United States Public Health Service. This will serve to guarantee the efficiency of the work.

POSSIBILITIES IN RURAL HEALTH WORK

What can be done in rural health work may now be stated in terms of fact, not as prophecy or opinion. Nine counties in North Carolina, working in coöperation with the State Board of Health and the International Health Board, following a standard plan of work on a budget of \$6,000 each, have been at work now for an average of fourteen months each. The health officers in charge of the work in these nine counties with only one or two exceptions were men who had never had any special training or experience in public health administration. The following table shows the amount of work accomplished by the average county for the average month in the initial stages of county health work:

1. 8 public lectures with an attendance of 729 people.
2. 7 newspaper health articles published in the county papers.
3. 61 rural homes constructed sanitary privies.
4. 171 people examined for hook-worm disease and 33 of these treated.
5. 4 schools visited by the health officer.
6. 325 school children examined by the teachers working under the direction of the health officer.
7. 106 school children personally examined by the health officer.
8. 51 of the children found defective by the health officer were treated.
9. 32 adults given physical examinations by the health officer.
10. 310 people vaccinated against typhoid fever.
11. 54 people vaccinated against smallpox.
12. County quarantine work performed satisfactorily and included the quarantining, according to the State law, of 43 cases of infectious diseases.

13. Medical attention was given the county dependents who were inmates of the county home, the jail, and the chain-gangs.

If H. R. 14185 becomes a law and the State of North Carolina shall meet the Federal apportionment and make it available for rural health work, the State Board of Health proposes the employment jointly by the Federal, State, and County governments of a public health nurse working on a total budget of \$3,000 a year, contributed \$1,000 each by the three participating governments. The budget will probably be expended as follows:

Nurse's salary	\$1,500.00
Nurse's traveling expenses...	720.00
Postage, stationery, and print- ing	250.00
Office equipment	250.00
Supplies for sick.....	180.00
Contingencies	100.00

With this budget the nurse may be expected to carry out in a satisfactory manner the following units of health work:

(1) See that the State and county quarantine laws are properly carried out and that free antitoxin is made easily available to the people of the county. This is a matter of routine carefully worked out and supervised by the State Board of Health under the provisions of the State quarantine law.

(2) Through free vaccination dispensaries held on certain dates and at certain places, to vaccinate the people of the county who apply for vaccination against (a) typhoid fever; (b) smallpox; (c) pneumonia; and (d) possibly influenza.

(3) To carry out a unit of tuberculosis work consisting of (a) public lectures through the schools to both children and parents on the subject of tuberculosis. Many of these lectures will be illustrated with lantern slides. (b) To meet and advise with, and furnish, through coöperation already available through the State Sanatorium, any persons having suspicions of tuberculosis a thoroughly modern examination for the disease, and in this way facilitate the recognition of tuberculosis in the early curable stages of the disease.

(4) In coöperation with the Bureau of Medical Inspection of Schools of the

State Board of Health, to examine the children (the teachers coöperating as required by law) for the common defects of childhood, and to arrange, through the organization of tonsil and adenoids clubs and free dental clinics (the latter to be financed by the State Board of Health), for the treatment of the defects found, either free of cost or at such a minimum cost as to be easily within the reach of the county or parents.

(5) By coöperation with the Bureau of Infant Hygiene of the State Board of Health, and following a certain definite plan of standardized work for rural nurses, to carry out a county unit of infant hygiene work embracing the instruction of mothers in regard to the hygiene of pregnancy and the care and feeding of their babies.

The Fourth Recommendation

The North Carolina State Board of Health recommends, *Fourth*—

THAT ADEQUATE PROVISION BE MADE FOR CO-OPERATING WITH THE FEDERAL GOVERNMENT IN THE PREVENTION OF VENEREAL DISEASES. The considerations on which this recommendation rests are as follows:

GENERAL PREVALENCE OF VENEREAL DISEASES

Before millions of men were called up for thorough physical examinations by the Government, and the relative prevalence of various defects and diseases were revealed by this general wholesale and thorough examination of our people, the only basis of opinion as to the prevalence of venereal diseases were the estimates furnished by specialists for this group of diseases. The revelation of the draft boards and of the medical department of the Army and Navy, with respect to the physical conditions prevailing among the people, and particularly the prevalence of venereal diseases, have largely replaced estimates with actual figures.

MILITARY PREVALENCE

General Gorgas, Surgeon General of the United States Army, says: "The army loses more days of service from

its men due to venereal diseases than from any other cause. If the medical department of the army had a choice presented to it, say if some man came with a wand, and it was demonstrated that with this wand every wounded man could be gotten back into the line at the end of the second day, with his wound cured; and another course were presented by which all venereal diseases could be eradicated from the army, and our choice were given, permitting us to leave out all sentimental reasons, such as the moral effect upon the community, and allowing us merely to consider the good of the army, and our ability to keep in the line the largest and most efficient fighting force, I think there would be very little hesitation on the part of our department in choosing the eradication of venereal diseases. We, in the course of the year, should be able to keep more men in the trenches and have a more efficient force by having eradicated venereal diseases than by eradicating wounds."

The Council of National Defense says:

"During the twelve weeks ending December 7, 1917, there were reported from 31 cantonments, 21,742 new cases of venereal disease. The incapacitation of these men involves not only loss of time; in addition, it has cost the Government to keep them during the period of hospital confinement (which varies from one to eight weeks) more money than is required to maintain the entire command at Camp Dix (the cantonment in New Jersey with 20,859 men) plus an additional sum for medical treatment.

"This is not all. Inevitably the disease will relapse in hundreds of these cases, in many instances after the men have been transported to France and presumably put into condition for service at the front, at a cost to the nation of probably \$1,500 for each man."

Lieut. Col. William F. Snow, representing the Office of the Surgeon General, before a committee of the United States Senate, said: "Over 80,000 cases of venereal diseases have been recorded in the United States Army between September, 1917, and June, 1918."

The following official figures show the prevalence of venereal diseases in different countries:

Venereal Infection Per Thousand Men		
	Year	Rate
U. S. Army.....	1909	196.99
U. S. Navy.....	1909	159.83
Japanese Navy	1907	139.75
British Navy	1908	122.49
British Army	1908	75.8
Russia	1906	62.7
Austria	1907	54.2
Japanese Army	1907	37.6
France	1906	28.6
Prussian Army	1907	18.7

The diagram on page 11 of this bulletin, prepared from reports made to the Surgeon General of the Army and published by the Surgeon General of the Army, shows the prevalence of venereal diseases in the different subdivisions of our army, and in the army as a whole, compared with the prevalence of other communicable diseases. It will be noted that the venereal disease rate is almost five times the rate of the other communicable diseases named.

CIVILIAN PREVALENCE

The diagram above referred to furnishes most interesting and convincing evidence as to the civilian prevalence of venereal diseases. For example, the diagram shows that in the army group farthest removed from the people, the Regular Army, there was less venereal disease than in that army group somewhat nearer the civilian population, namely, the National Guard; that there was less venereal disease in the National Guard than in that army group just from the ranks of the people, representing all races, industrial and social classes, the National Army. The evidence of the chart is that the nearer we come to the civilian population the higher the rate of venereal disease encountered. This is in conformity with the evidence presented to the Military Affairs Committee to the effect that 83 1/3 per cent of the venereal diseases in the army were brought in as the drafted men came into camp, and only 16 2/3 per cent were contracted after the men came into the ranks. The evidence indicates that big as the venereal disease problem is from a military standpoint, it is bigger as a civilian problem.

A representative of the United States Public Health Service estimates that there are annually 2,500,000 new cases of venereal disease in the United States—about one person in forty be-

coming infected each year. The Council of National Defense estimates that there are over 50,000 cases of venereal disease in North Carolina. This figure may be compared with the total number of annual cases of tuberculosis,

the first million enlisted men, that were found to be infected with venereal diseases:

1. Florida
2. Alabama
3. Virginia

8.90
8.70
8.40

DIAGRAM

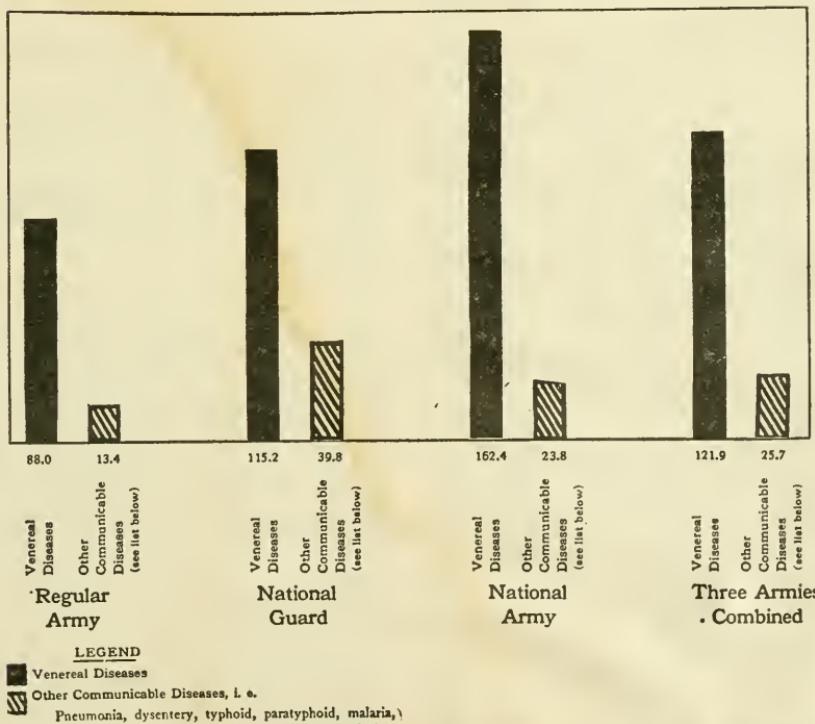
Showing

Prevalence of Venereal Diseases

Compared with other communicable diseases

in the United States Army

Prepared from Reports made to the Surgeon General



typhoid, diphtheria, scarlet fever, measles, whooping-cough, and meningitis in North Carolina, amounting to about 45,000.

PREVALENCE IN NORTH CAROLINA

The following table shows the per cent of men from each State, among

4. South Carolina	8.00
5. Georgia	5.60
6. Texas	4.70
7. Oklahoma	4.50
8. Mississippi	4.05
9. West Virginia	4.00
10. NORTH CAROLINA	3.90
11. Tennessee	3.80
12. Kentucky	3.70

13. Missouri	3.50
14. Arizona	3.40
15. Louisiana	3.32
16. Indiana	3.30
17. Maryland	3.28
18. Ohio	3.24
19. Delaware	2.78
20. New Mexico	2.68
21. Rhode Island	2.66
22. Pennsylvania	2.60
23. Illinois	2.44
24. Kansas	2.38
25. District of Columbia.....	2.14
26. Colorado	2.12
27. Maine	2.02
28. Michigan	1.95
29. Alaska	1.90
30. New York	1.82
31. North Dakota	1.75
32. Arkansas	1.73
33. Massachusetts	1.66
34. Iowa	1.63
35. Connecticut	1.60
36. Minnesota	1.57
37. New Jersey	1.55
38. Vermont	1.53
39. Nebraska	1.53
40. Nevada	1.40
41. New Hampshire	1.22
42. Wyoming	1.22
43. Wisconsin	1.21
44. California	1.15
45. South Dakota	0.92
46. Montana	0.89
47. Washington	0.86
48. Utah	0.79
49. Idaho	0.76
50. Oregon	0.59

The average per cent for the States is 2.82. North Carolina's percentage is 3.9, that is, 39 men out of every 1,000 drawn indiscriminately, except with respect to age, from the men of North Carolina, were infected with venereal diseases. There were but nine States with a higher percentage of infection than North Carolina. States like Pennsylvania, Illinois, Rhode Island, Louisiana, and Massachusetts, with large urban population, showed a lower per cent of venereal diseases than rural North Carolina with almost a complete absence of red-light districts.

SOME OF THE IMPORTANT EFFECTS OF VENEREAL DISEASES

Dr. M. J. Rosenau, Professor of Preventive Medicine and Hygiene, Harvard University, says: "As a danger to the public health, as a peril to the

family, and as a menace to the vitality, health, and physical progress of the race, the venereal diseases are justly regarded as the greatest modern plagues. . . ."

Gonorrhea is responsible for 60 per cent of the surgical operations on women.

Gonorrhea is responsible for 50 per cent of all sterility.

Gonorrhea is responsible for from 25 to 33 per cent of all blindness.

Gonorrhea permanently maims one person in a hundred, and kills one person in every two hundred.

Syphilis as a cause of death ranks with tuberculosis; pneumonia, and cancer.

Syphilis causes from 10 to 20 per cent of all insanity.

Syphilis, assuming that 10 per cent of the insane in the three large State Hospitals in North Carolina are there as a result of this disease, costs North Carolina annually in appropriations for these three hospitals 1/10 of \$570,000; that is, \$57,000. Of course, this does not include the ravages and losses from syphilis outside of the State insane asylums.

FEDERAL PROVISIONS FOR DEALING WITH THE VENEREAL DISEASE PROBLEM

The revelations of the Army with respect to the prevalence of venereal diseases and the effects of these diseases have caused the Federal Government to recognize the venereal disease problem as one of such vast importance to the life of the Nation generally as to influence Congress to appropriate nearly \$2,500,000 for dealing with the problem. One million dollars of the appropriation is apportioned among the States of the Union on a population basis. The first year's apportionment, ending July 1, 1919, is to be paid to the States without condition of financial coöperation, but after July 1, 1919, the Federal apportionment of funds for this purpose to the States is conditioned upon the States appropriating an equal amount. North Carolina's full allotment, providing the General Assembly will appropriate an equal amount, is \$23,988.61. The combined funds, State and Federal, are to be expended on a plan for combating venereal diseases that is approved by the United States Public Health Service and the North Carolina State Board of Health.

**STANDARD PLAN FOR COMBATING
VENEREAL DISEASES**

The plan of work for dealing with venereal diseases has been devised and agreed upon by conferences between the Office of the Surgeon General of the Army, the Surgeon General of the Public Health Service, and State Boards of Health. This plan consists, briefly, of three parts:

1. A general educational campaign for informing the public of the prevalence of venereal diseases, the dire effect of these diseases, their cause and prevention. This educational work is to be carried out through (a) the publication of articles in the State Board of Health Bulletin; (b) articles contributed to the press; (c) the preparation and distribution, through appropriate channels, of special pamphlets on the various phases of the sex problem and venereal diseases; (d) courses of lectures by male lecturers to the male colleges of the State and by female lecturers to the girls' colleges and women's clubs; (e) the use of films, more especially the excellent film prepared by the Army for educating the soldiers in regard to venereal diseases, entitled "Fit to Fight."

2. Making adequate provision for the modern treatment of venereal diseases by (a) furnishing free salvarsan or arsphenamin, the remedy for syphilis, to the people of the State; (b) organizing and partially financing dispensaries for the free treatment of venereal diseases in the larger cities of the State, and after the per capita cost of treatment in the dispensaries is determined, to appoint physicians in the various counties to treat venereal diseases according to the method established in the dispensary, paying these physicians per case the same amount paid the dispensary per capita case.

3. The suppression, so far as possible, of prostitution—open and clandestine—through (a) the employment of plainclothes men for securing evidence sufficient to convict the prostitute; (b) by legislation that will permit the holding of an infected prostitute until she shall be treated and cured of her infection.

The details of these recommendations will be brought before the General Assembly in due time in the form of appropriate bills.

**PROSTITUTION THE SOURCE OF
VENEREAL DISEASES**

[Prostitution bears to venereal diseases the same relation that stagnant water bears to malaria. The best statement on this subject that we have ever seen is taken from the book entitled "Syphilis and Public Health," by Edward B. Vedder, A.M., M.D., Lieutenant Colonel, Medical Corps, United States Army, and reproduced here by permission of the publishers, Messrs. Lea & Febiger, Philadelphia, Pa. To those who cannot think of prostitution as one of the evils of North Carolina, we would invite their attention to the relative prevalence of venereal diseases among North Carolina men as indicated in the table shown on pages 11 and 12 of this Bulletin.—EDITOR.]

"The root of the venereal disease problem lies in prostitution. It would seem that pessimism or the habit of looking only on the dark side of things receives its justification here, for prostitution is a subject that appears to have no bright side. Nothing is more discouraging than the fact that after so many years of discussion and endeavor to deal with the problem we have made so little progress in practical methods of dealing with this ulcer of the body politic. The natural tendency is to turn from the discussion of such an unprofitable and disgusting subject, but since prostitution is the chief cause of the present prevalence of syphilis, any work dealing with syphilis and public health that omitted this subject would be incomplete. While the discussion of prostitution must necessarily be brief, an effort will be made to present sufficient facts to indicate the hopeful method of attacking this problem.

"Prostitution is a sociological problem, and its eradication depends upon the study of the conditions operating to produce it and the adoption of measures that will remove these causes. But venereal diseases are a present menace to society, and the sanitarian wishes to know what practical measures he may take at once in regard to prostitution to limit the spread of these diseases. These are two different phases of the subject that should be discussed separately.

Prostitution as a Sociological Problem

"There is good reason to believe that sexual promiscuity is as old as the hu-

man race, since anthropologists tell us that before the development of the family promiscuity was general, and our knowledge of the animals from which the human race developed appears to confirm this view. Therefore, promiscuity or, at least, polygamy is biologically a natural condition, and monogamy has developed as the result of moral and economic considerations. But the latter have not as yet been sufficient to entirely restrain man from his tendency to promiscuity, and this is the ultimate cause of prostitution.

"The origin of venereal diseases is shrouded in obscurity. Promiscuity among the animals is not productive of disease with the single exception of dourine, or so-called horse syphilis, which is a trypanosome infection transmitted by sexual congress. But it is useless to speculate upon the biological origin of venereal diseases. Gonorrhea at least is known to have existed from early antiquity. Many have thought that syphilis was brought back from America by the sailors with Columbus and thence spread over Europe, but there is no proof that this view is correct. In no case has undoubtedly syphilis been demonstrated in pre-Columbian bones, while, on the contrary, there is considerable evidence that syphilis was common in Europe before the discovery of America but was not distinguished as an independent disease, being confounded with leprosy and other diseases. Mercurial inunctions were a popular form of treatment in Europe long before the time of Columbus, and it is difficult to understand to what their popularity was due if syphilis was nonexistent. But while there are differences of opinion on this point which can hardly be regarded as settled, there are certainly grounds for believing that sexual promiscuity with its accompaniment of venereal disease has been with us since before the dawn of history. If sexual promiscuity ceased, gonorrhea and syphilis would soon become extinct diseases. But since the human race has made so little moral progress in its long development through the ages it is hardly to be expected that a sudden revolution in morals will occur during the present generation.

"This does not mean that we should not 'hitch our chariot to a star.' Ideals are our most precious asset, and it is well to have clearly before us the ideal of a community free from vice, and the

education of a new race of men who will have the same standard of sexual purity for themselves as for the women they expect to marry. But it is well to remember that such high ideals are only slowly realized, and that in the meantime we are compelled to live in the world as it exists today.

"Sociological Reform.—Since the *raison d'être* of prostitution is to be found in the biological origin of the race and the struggle between a perfectly natural appetite and moral and economic laws, it follows that any conditions that make marriage easy will proportionately reduce prostitution, while those social conditions that make marriage difficult or defer the age of marriage encourage prostitution. In primitive communities where marriage occurs at an early age prostitution is almost unknown. When the community becomes more complex, as in cities, the age of marriage is almost always deferred. The man who derives his living from the soil in a country where land is easily obtainable may be economically independent and may marry at the age of twenty or earlier. In the city a long period of intensive education becomes necessary before economic independence can be achieved, and the age at which marriage is possible is deferred for from five to ten years. Reproduction is a physiological possibility at a very early age (puberty), and if governed solely by physiological laws would normally occur not much later than eighteen years of age. The perpetuation of the species is not dependent on the whims of individuals, but is ensured by means of a most imperious instinct, the sex appetite. This appetite is far stronger in the male than in the female, and hence we find that it is almost always the male who seeks his mate. If this instinct were promptly obeyed in a legitimate way, marriage would generally occur somewhere between eighteen and twenty years of age. But physiology and sociological conditions are not on speaking terms and make their arrangements quite independently, and as both are equally imperious and exigent, prostitution is the natural result. The demand on the part of the male creates the supply, and will continue to do so until, as the result of education to a higher moral plane or changed economic conditions, the demand ceases.

"It is frequently stated, and very gen-

erally believed, that women are driven into prostitution because they are not paid a living wage. This may occasionally be a cause of prostitution, but it is a very minor cause, as shown by investigations into the previous occupations of prostitutes. Stromberg found that out of 462 prostitutes there was not a single case in which the economic cause was the determining factor. Welander in his studies of prostitutes in Stockholm found that 60 per cent of them were previously in domestic service and were in comfortable circumstances. Leonhard's examination of the records of 600 prostitutes in Düsseldorf failed to establish poverty as a reason for prostitution. Kneeland found that at the Bedford Reformatory out of 279 cases, economic conditions were thought to be responsible for the adoption of a life of prostitution in only 19 cases.

"We see, therefore, that very few prostitutes allege poverty as a compelling cause. A very large percentage come from the ranks of domestics, who may not be richly paid, and whose hours of labor may be hard, but who are at least fed, clothed, and housed and cannot have been driven into prostitution by destitution. There may be a thousand contributing causes, including the fact that many girls who are mentally deficient or morally weak find this life an easier mode of support than more legitimate occupations; but the essential cause is the demand on the part of the male that his sexual appetite be satisfied, and as legitimate marriage is impossible, prostitution, the white slave traffic, and venereal disease are the natural consequences.

"That prostitution is supported almost wholly by the unmarried is shown by the following figures compiled by Brandweiner:

Disease	MALES			Widowed or Divorced
	Total	Single	Married	
Chancroid ...	980	895	75	10
Gonorrhea ...	1365	1179	162	24
Syphilis	2264	1962	270	32

Disease	FEMALES			Widowed or Divorced
	Total	Single	Married	
Chancroid ...	941	906	29	6
Gonorrhea ...	1670	1618	43	9
Syphilis	2900	2660	210	30

"We have already seen that the great majority of venereal diseases are de-

rived directly from prostitution, and the prevalence of these diseases among the single is a sure indication that it is the unmarried who turn to prostitution. The fact that the greatest incidence of venereal diseases is between the years of twenty-one to twenty-five indicates that it is just during these years, when marriage should have occurred, that most of the exposures have taken place.

"Further evidence that the prostitute draws her clientele chiefly from the unmarried may be found in statistics presented by Snow. During one year 369 new cases were classified in a Boston dispensary for venereal diseases, with the following result: those single under twenty-one years comprise 23.5 per cent of all cases, single over twenty-one years 65 per cent of all cases, so that 88.5 per cent were single. The married under thirty years furnished only 6 per cent and over thirty years 5.5 per cent, so that the total married cases were 11.5 per cent. In the same article it is shown that the source of infection in 55.5 per cent of cases is the prostitute; that domestics, friends, working women, and unknown sources were responsible for 42.4 per cent, and that only 1.5 per cent of the cases of venereal disease were traceable to adulterous relations with married women."

The State's Program of Treatment for Prostitution

The General Assembly of 1919 will be asked to enact bills dealing with prostitution, which will be submitted before this is read, that will put into effect the following principles of control:

1. Through funds contributed jointly by the Federal and State Governments, the employment of from two to three plainclothes men to detect, secure evidence, and bring prosecutions in magistrates' courts against prostitutes.
2. Conviction of prostitution in a magistrate's court to give the State Board of Health the right to quarantine, and to hold in quarantine, under a sufficient penalty, prostitutes who may reasonably be suspected to be infected with venereal diseases; as practically all prostitutes are infected, they will all be quarantined until examined and found noninfectious.
3. To hold the prostitute under quar-

antine until she has been treated and cured of her venereal disease infection; that is, until she is no longer a carrier, a source of the disease.

4. The expense of detaining, quarantining, and treating a prostitute to be chargeable to the county in which the prostitution for which she is convicted was practiced.

5. By making the expense for detaining and treating a convicted prostitute chargeable to the county permitting the practice of prostitution to turn the county law-enforcing officers, to wit, sheriff, deputy sheriffs, and municipal police, strongly against the practice of prostitution in order to protect the county from unnecessary expense.

EXPENDITURES OF MONEY BY THE RED CROSS AND OTHERS IN TUBERCULOSIS OVERSEAS

Contributed by Dr. L. B. McBRAYER.

"If there is to be a Democratic equality of opportunity, there must be an equal opportunity for health."

"So severe had been the privations of war among refugees of the battle area that tuberculosis had gained great headway. The fight against this scourge began immediately upon the arrival of the Red Cross in France. The disbursements up to July 1st this year (1918) were \$2,147,327.

"Seventy-six tuberculosis hospitals have been completed.

"Requisitions for goods have been approved for 96 provisional hospitals containing 5,610 beds, all to be in operation by fall.

"The appropriation for the current six months is \$2,582,456.14."

You will understand that this does not include money spent by the International Health Board.

I suppose some mention ought to be made also of the Red Cross work with children in France, which is so closely bound up with the tuberculosis work. I note that the same bulletin says up to July 1, 1918, \$1,149,129 had been disbursed for the care of French children, and the appropriation for this work to January 1st next is \$2,775,877.

In addition, the International Health Board is spending one to two million a year in France. Mr. Warren H. Booker, who was with the State Board of Health, is now with the International Health Board in France, and is in charge of educational propaganda only. He has for his budget for this year \$129,000.

Four counties in Ohio (Wood, Hancock, Seneca, and Crawford) are spending \$100,000 in sanatoria construction.

The Council of National Defense is spending \$100,000 at the State Sanatorium in West Virginia in erecting hospital beds for tuberculous soldiers.

Marion County, Indiana, is appropriating \$100,000 for additional buildings at their County Sanatorium.

Washington City was selling bonds very recently in amount of \$350,000 for additions to their Sanatorium.

The American Red Cross has recently appropriated \$50,000 for scholarships for nurses who desire to take the course in Public Health Nursing.



The

The Health Bulletin

Published by THE NORTH CAROLINA STATE BOARD OF HEALTH

This Bulletin will be sent free to any citizen of the State upon request.

Entered as second-class matter at Post office at Raleigh, N. C., under Act of July 16, 1894
Published monthly at the office of the Secretary of the Board, Raleigh, N. C.

Vol. XXXIV /

APRIL, 1919

No. 10



SPRING

See what Richard H. Tyson's mother says about him on page 11



PUBLIC HEALTH AND SANITATION



Edited by DR. W. S. RANKIN

MR. GANN PAYS \$46.55 FOR \$1.75 WORTH OF ANTITOXIN

Who Is to Blame—Somebody or Nobody

The North Carolina State Board of Health has not very much of a reputation for not calling spades spades. We are trying here to maintain that reputation.

The following table is made up from 123 reports that have been made to this office recently by families that have had to use antitoxin:

Name of Purchaser	Address	No. Doses Bought	Total Cost	Antitoxin Bought from	Address	Cost of Same Am't of State Antitoxin	No. Times Too Much Paid
A. S. Campbell.....	Stokesdale.....	2	\$18.00	Greensboro Drug Co..	Greensboro.....	\$ 0.50	36
Herbert Fleming.....	Ayden.....	2	13.00	King's Pharmacy.....		.50	26
S. B. Gann.....	Stokesdale.....	8	46.55	Greensboro Drug Co..	Greensboro.....	1.75	26
Joe Newkirk.....	Burgaw.....	2	12.00	Dees Drug Store.....	Burgaw.....	.50	24
C. A. Corbett.....	Selma.....	3	18.00	Woodard Drug Co..	Selma.....	.75	24
J. L. Brook.....	Goldsboro.....	2	10.00	Goldsboro Drug Co..	Goldsboro.....	.50	20
Miss Jarrett.....	Canton.....	1	5.00	Martin Drug Co.....	Canton.....	.25	20
Mrs. W. C. Phillips.....	Canton.....	2	10.00	Martin Drug Co.....	Canton.....	.50	20
H. L. Starnes.....	Hickory.....	6	30.00	C. M. Shuford.....		1.50	20
Mrs. Etta Warren.....	Clinton.....	2	10.00	Clinton.....		.50	20
George W. Pike.....	Pine Level.....	3	8.90	{Selma Drug Co....} {Woodard Drug Co..}	Selma.....	.75	18
Philip Proctor.....	Thomasville.....	2	9.00	Dr. McCain.....	High Point.....	.50	18
Roland Millard.....	Mount Olive.....	3	11.75	Guy Rose.....	Mount Olive.....	.75	15
Oscar L. Gerry.....	Walnut Cove.....	3	9.00	Dr. R. G. Tuttle.....	Walnut Cove.....	.75	12
J. B. Stewart.....	East Monbo.....	7	17.50	Troutman & Polk Drug Co.....	Troutman.....	1.75	10

From the preceding table it will be noted that Mr. A. S. Campbell bought 20,000 units of antitoxin, which he should have obtained for 50 cents, paying \$18 for it, 36 times what it should have cost him. Mr. S. B. Gann, of Stokesdale, got his antitoxin cheaper, but lost more money in doing so. Mr. Gann paid \$46.55 for \$1.75 worth of antitoxin, 26 prices for it. It is interesting to note that in both of these instances

the antitoxin was made by the same manufacturer and sold by the same druggist. If somebody is responsible for charging people more than it is necessary for them to pay, let that somebody come out into the sunlight even if shaded glasses are needed for comfort.

Mr. C. A. Corbett, of Selma, who paid \$18 for 75 cents worth of antitoxin, writes: "If there is any way for me

to get a rebate on the above antitoxin, I would like to have it." Our reply to Mr. Corbett is that we cannot rebate him this time, but we hope to save him the necessity of writing for the rebate next time.

There are three parties interested in the sale and price of diphtheria antitoxin—the seller, the user, and the State of North Carolina.

The sellers, wholesale and retail dealers, appear to be interested in selling antitoxin for a price that will give them what they have mistakenly regarded as a good profit.

The user is concerned to get standard, first-class, thoroughly reliable antitoxin at the cheapest rate. The potency of all antitoxins is tested by the same test, which is a test easily applied and thoroughly reliable in warranting conclusions. The same test of potency, therefore, is applied to the State brand of antitoxin as to all other antitoxins. The doctors who are using State antitoxin and saving their patrons the high and unnecessary charges for commercial brands represent the very best physicians of the State. In 123 reports from families who have recently suffered from diphtheria and used antitoxin, the following physicians were in attendance and prescribed State antitoxin with excellent results:

Drs. R. B. Miller, Goldsboro
 C. A. Baird, Mount Airy
 Chas. Peterson, Spruce Pine
 W. A. Bradsher, Roxboro
 H. G. Monk, Trenton
 Wm. P. Holt, Duke
 F. W. Avart, Wilmington
 W. A. Rogers, Franklin
 W. I. Hill, Albemarle
 K. A. Price, Hickory
 P. W. Schallert, Winston-Salem
 Henning Smith, Greenville
 J. Clegg Hall, Albemarle
 J. F. McKay, Buiies Creek
 Asa Thurston, Taylorsville
 G. A. Gentry, Person County
 J. W. Jones, Winston-Salem
 J. E. Nobles, Greenville
 J. C. Wilkins, Haw River

J. W. Halford, Lillington
 Allen, New London
 Johnson, Winston-Salem
 H. M. Montgomery, Burlington
 G. A. McLemore, Clayton
 Mimms, Winston-Salem
 Z. Fearing, Elizabeth City
 W. T. Rainey, Badin
 A. F. Williams, Wilson
 Cobb, Goldsboro
 J. N. Moore, Marshall
 G. A. Caton, Bridgeton
 D. R. Baird, Mars Hill
 A. P. Willis, Candler
 Phillips, High Point
 A. B. Goodman, Lenoir
 Sikes, Salemburg
 W. H. Smith, Goldsboro
 A. C. Jordan, Durham
 Glen Long, Catawba
 R. O. Dees, Greensboro
 M. M. White, Lenoir
 T. C. Matthews, Castalia
 A. C. Whitaker, Julian
 J. A. Smith, Wilmington
 Geo. H. Ross, Durham
 J. L. Fisher, Jackson
 S. A. Saunders, Aulander
 T. C. Bullock, Autryville
 W. T. Holt, McLeansville
 Grady Stowe, Tobaccoville

We submit that this list of the profession represents a group of as first-class physicians as will be found in the State.

In discussing the subject of diphtheria at the October meeting of the Wake County Medical Society, Dr. Aldert S. Root, specialist in the diseases of children, made the following statement: "I have used the diphtheria antitoxin prepared by the State Board of Health in all of my cases since it became available to the public, because in no single case, no matter the size of the dose, have I had the uncomfortable toxic symptoms (urticaria, temperature reaction, etc.) which have arisen from the use of any of the other antitoxins upon the markets. Aside from this, its potency is shown by the prompt response to its use in these cases."

The third party interested in the price of antitoxin is the State of North Carolina, which we are trying to repre-

sent. The State wants its people to have antitoxin at the lowest possible rate. It is spending about \$10,000 a year to produce antitoxin in order that they may have it within easy financial reach. The State antitoxin costs 25 cents a package regardless of the size of the package, whether it contains 1,000 units, 5,000 units, or 10,000 units. The charge is made for the syringe, the wrapper, the postage and express. The antitoxin itself is free.

Now, my reader, if somebody who in some way is interested in commercial antitoxin should tell you that any commercial brand is better than the State antitoxin, ask him to please put that in writing and let us have it. It will make excellent material for a subsequent Bulletin.

W. S. R.

LAGGING COUNTIES

The following twenty-one counties at this writing, March 10, have made no arrangements for their people to receive State antitoxin for diphtheria:

Alleghany	Greene
Anson	Halifax
Avery	Pender
Bladen	Rutherford
Burke	Scotland
Cabarrus	Swain
Camden	Transylvania
Columbus	Tyrrell
Cumberland	Vance
Dare	Warren
Graham	

People living in these counties have to pay from eight or ten to twenty times the price of antitoxin that people living in the other seventy-nine counties have to pay for it. Who is to blame? The chairman of your board of county commissioners. He is the man. He is the chairman of your county board of health. He is the dominant influence on both the board of county commissioners and county board of health. He is the man more than any other responsible for the kind of county physician that you

have and the kind of health work you get, and he can, if he will, see that the county physician arranges for the people of the county to have State antitoxin at convenient depositories.

We have nothing against the chairman of your board of county commissioners. If he suits you, he suits us, but his negligence in this matter is causing some of the citizens of the county to pay a great deal more than they should have to pay for diphtheria antitoxin. We think you ought to know this.

W. S. R.

TYPHOID FEVER CAN BE PREVENTED

Militarists tell us that the first line of defense of our nation is in the navy and that the second line is in the coast fortifications and that the third line of defense is in the army. This is only partially true since all three of these lines of defense depend upon the welfare of the people in their homes. The main defense of this or any other country depends upon the health of the people—the health of *all the people*, not of any class or division—and any amount of money that can be expended to create and improve health conditions in the homes and thereby build up a strong and active race of men and women who are able to take care of themselves will, from the standpoint of the State or the Nation, be wisely and economically expended.

Typhoid fever is an example of a disease that can be, and is being, prevented in North Carolina through an application of the rules of sanitation and personal hygiene by our citizens. Typhoid is a dangerous disease, in its beginning being rather insidious; and it extends over weeks and perhaps months when it runs its usual course. The patient is left very weak and is often handicapped for life with the after-effects of the disease. And, worst of all, the disease is very infectious and easily spread and kills about one

out of every ten who contract it. For these reasons typhoid is a costly disease and causes great economic loss to the unfortunate family or community in which it appears.

On the other hand, typhoid fever is easy to prevent and there is no reason, except ignorance, why an individual, a family, or a community should contract the disease. *An individual can protect himself by being vaccinated.*

diseases are all caused by germs which pass from the body with the bowel material, and if all the bowel material is prevented from getting into the drinking water and flies cannot have access to it and carry it to the food, these diseases cannot occur. This protection can be secured by building and using sanitary (fly-proof) privies—and such privies are no more expensive than the ordinary open-back privy, or the open-

DEATHS FROM TYPHOID FEVER

DURING THE YEARS 1914, 1915, 1916, AND 1917

(Death Rates per 100,000 Shown by Counties)

County	Total Deaths for 4-year Period	Yearly Average of Deaths	Death Rate for Average Year
Davidson	44	11	33.7
Forsyth	82	20½	37.7
Lenoir	53	13¼	52.9
Nash	42	10½	27.
Northampton	14	3½	15.2
Pitt	63	15¾	40.1
Robeson	66	16½	30.2
Rowan	57	14¼	34.7
Wilson	57	14¼	46.1
Total	478	119½	35.3

DEATHS FROM TYPHOID DURING 1918

County	Population	No. Deaths	Death Rate
Davidson	33,171
Forsyth	23,732	4	16.
Lenoir	25,365	2	7.8
Nash	32,913	1	3.
Northampton	23,061
Pitt	39,769	2	5.
Robeson	54,223	5	9.2
Rowan	41,575	4	9.6
Wilson	31,207	6	19.2
Total	305,016	24	7.8

The State of North Carolina supplies the vaccine free of cost and the commissioners of our most progressive counties have arranged for its free administration. *A family or a community can protect itself against the disease through vaccination and sanitation.* Vaccination is temporary and must be repeated every three years, while sanitation permanently prevents typhoid and also the summer bowel complaints of children, the diarrheas, hookworm, and other diseases. These

back type can easily be changed into a sanitary privy.

The North Carolina State Board of Health is coöperating with Davidson, Forsyth, Lenoir, Nash, Northampton, Pitt, Robeson, Rowan, and Wilson counties in conducting their county health work. The reduction of typhoid fever in these counties during 1918 was marked; and the prevalence of typhoid fever is usually considered a fair index of the incidence of soil pollution diseases; a reduction in the death-rate

from typhoid fever being an indication of a reduction in the number of cases and deaths of all diseases which are spread through pollution of the soil. In North Carolina we have statistics of typhoid fever since 1914. There has been a steady reduction in the number of deaths, and hence in the number of cases, each year; as follows:

1914—839 deaths
1915—744 deaths
1916—700 deaths
1917—628 deaths
1918—502 deaths

When we consider that there are at least ten cases of typhoid fever to every death we can determine the decreased amount of sickness, and if we place a monetary cost on each case and each death (Rosenau, an authority on public health matters, places the average cost of all cases of typhoid at \$400

each), we can estimate the great financial saving that has been brought about in North Carolina through sanitation and vaccination.

The reduction in typhoid fever during 1918 in the nine counties coöperating with the State Board of Health is shown in the accompanying table which also gives the typhoid statistics for these counties for the years 1914 to 1917. It will be seen that nearly ninety-six (76%) of the total State reduction of 126 deaths from typhoid was in these nine counties.

In view of these important results the action of the General Assembly of 1919 in requiring the building and maintenance of sanitary privies and in providing for an extension of co-operative county health work is seen to be wise and economical.

B. E. W.

WHO AM I?

I am as old as the first man and as young as the last born babe—ever changing and unchanged. Where human intercourse is possible there may I be found.

I devastate cities and countries and continents. Athens I robbed of her glory and Rome of her strength. I conquer the armies of conquerors.

I laugh at barriers and bars and bolts. I penetrate both hovel and palace and ravage the frames of the young, the old, the weak, and the robust with equal delight. I feel no pity for age, nor sex, nor beauty, nor rank.

I assume many forms, and those whom my first malevolent touch has left weak and defenseless, I seek, ghoul-like, in other guise, again and again to destroy. Cooing infancy, laughing childhood, ambitious youth, happy motherhood, protecting fatherhood and contented age—all these I garner in my remorseless harvest.

Where ignorance, poverty, dissipation or physical stress prevail I take my greatest toll. I am insidious, insatiable, malignant—the unceasing enemy of all mankind.

To the superstitious and the uninformed I am inscrutable, but my clandestine methods of travel and approach cannot withstand the enlightenment of men. Where publicity and education exist, there I do not prosper.

I avoid those with clean lives and careful habits. I languish before the investigation of science, which steals away my virulence.

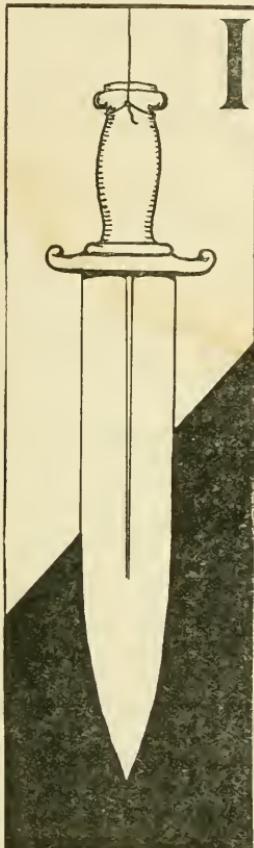
I can be banished by organized community effort, and when this shall be accomplished my name will lose its potency of mystery and fear, and my ravages cease—for I am

CONTAGION

—*Kansas State Board of Health Bulletin.*

THE SWORD OF DAMOCLES

BY WILLIAM COLEY RUCKER, M.D.



IT was hot and sultry in the rooms of the County Medical Society and the general sleepiness of the atmosphere was not in any way relieved by the droning voice of Dr. Erasmus P. Hicks dilating on the superiority of goat's milk for artificial feeding. A few of the older men who felt themselves above criticism boldly stalked out to the cool of the antechamber and one by one the youngsters trickled through the door, leaving behind only the occupants of the first three rows and those who had fallen asleep in their chairs.

In the outer room Marcus was holding forth, an alienist of international reputation, noted for a taciturnity which sometimes broke its bonds with the rush of a spring freshet.

"I tell you it gets 'em every time—sooner or later a man has to pay. You fellows see the beginning of things—the finding of the indictment, as it were; I see the endings—the execution of the sentence. And, God, what punishments! Not only does the man who breaks the law of nature suffer—if that were all it wouldn't be so bad—but the mental and physical agony of the family, yes, and of the generations yet unborn, is something unbelievable. The cruelty of it all! You know how it is; sometimes after a short bodily inconvenience, often not enough to be called an illness, they go on for years in fancied security, even forgetting, perhaps, the sin of long ago. And then the concrete pavement begins to feel like a plush carpet beneath the

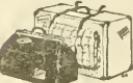


foot, the gait becomes uncertain in the dark, the lightning pains begin to rend the victim—you know the symptoms. Maybe it's a constant headache; and a round of oculists and internists and sanitariums begins. Then one day something breaks the fine fiber of self-restraint and 'Change wonders at his absence until the court appoints a conservator and the name of the asylum comes out.

"Let me illustrate. I can tell it now because he's long since dead and the family all live in Europe on his money. About two years before the fire, I was called into the case as a consultant. Clear case of paresis; in my own mind I didn't give him a year. Asked usual questions about previous history; patient claimed good record—denied any wrongdoing and was upheld in this by the family physician who said they had been intimate for twenty years. Still, it didn't look right to me. I knew the doctor wouldn't lie about it and the patient acted like he was telling the truth. But it piqued my

curiosity and afterwards I used to catch myself wondering about it and debating whether I was unjust to the man.

"Well, he got so it wasn't safe to keep him at home so we sent him to Boardman's. One day his wife came into the office to talk about the case—you know how they do—and in some way it came out that the patient had

toured Europe about a year before his marriage. This was a new aspect of the case to me so I let her gabble on.

She told me what an extensive trip it had been and that he had kept a most minute diary during the entire time, but that she had never been allowed to read it. I felt at once that I must have that book. At my request, she searched the house for it—couldn't find the thing anywhere; had his private papers at his office gone over—not a single trace of it. I was considerably put out—made me sore to lose such a chance of proving up and settling the worth of a deduction I believed correct.

"Just as I had about given up and told my curiosity it was an old meddler to start me on such a fool's errand, Boardman writes me that he found a greasy old notebook on the patient when he was admitted and that any attempt to take it away from him always made him violent. It was the diary; I knew it instinctively and I didn't lose any time in getting out to the asylum. Well, after a lot of wheedling I got the book, a little, dog-eared, dirty volume written full of the account of that journey. It wasn't an easy job to read it though. The grease had soaked through and the faded letters in that methodical business hand didn't stand out very plain on the yellow paper. But I knew I had a human document containing the

answer to the question which had perplexed me so long.

"The beginning was about like that of any diary. Resolves to make journey before finally settling down—*bon*

voyage dinners—journey to New York—sailing off ship—waving friends on pier—all that sort of thing.

Makes an acquaintance on board, young man about his own age; decide they will make the tour together. Cherbourg—Paris—rather a gay time—a Mlle. Louise Louis joins party and the three travel through Norway, Sweden, and Denmark together, finally winding up in Berlin about two months after the diary begins. Here the first rift in the lute. The apple has turned to ashes. He feels sick; consults a doctor—is sent to Fournier in Paris. You know what that means. The diary reads, 'Saw Dr. Fournier today. I am to return in ten days for my sentence.' Poor ignorant boy, little did he realize the meaning of that sentence even after it had been delivered. From that time on the course of the disease was that of a typical light form, apparently yielding perfectly to treatment—a treacherous viper waiting until it can strike the most telling blow, bidding its time until success has crowned years of labor and brought the pleasant anticipation of retirement from active life into the calm and peace of the family home.

 "In three or four months the young man thinks he is cured, leaves Paris, completes his tour, and, after a year's absence, returns to New York. That day he made this entry (how it sticks in my mind!) 'And thus today ends my *wanderjahr*—a period of great profit, much pleasure, and nothing to look back to with regret.' How little impression this awful thing had made



on his ignorant young mind! He had already forgotten the worst thing which was to happen to him in all his life. And in the after years nothing occurred to recall it, but always the sword hung above his head. Only one of his sons reached manhood, his only daughter was a chronic invalid, and he sometimes wondered at the puniness of his grandchildren. But he did not see in this the punishment for the sin of his youth nor did he realize the price he was to pay for this season of apparent immunity. All the time he remained well, pushing his way up the narrow ladder of success, accumulating wealth, gaining civic honors, respected, looked up to, no one apparently so much to be envied. And the blow fell; but God was kind—he scarcely lived out the twelvemonth."

There was silence for a moment and then one of the youngsters blurted out: "Wonder what happened to the chum?"

"Well, I did, too. So I went carefully through the book again and found his full name and address. I know him well. He's been in a rolling chair with locomotor ataxia for the past fifteen

years, suffering the pains of hell."—*Copyright 1917, Amer. Social Hygiene Asso'n. Reprinted by permission of The American Social Hygiene Association, New York.*

THE EPIDEMIC AND THE PROFITEER

Attention has been called more than once to the practice of patent medicine firms of turning the great American failing for self dosage to their own financial advantage through the exploitation of worthless or exorbitantly priced "remedies" for all sorts of human ills. The epidemic of Spanish

Influenza which has just swept the country afforded an opportunity for a further imposition on the credulity of a suffering public which was not overlooked by the "get-rich-quick Wallingfords" of the patent medicine trade.

Some enterprising druggist started the rumor that a bag containing camphor worn around the neck would prevent influenza. In a short time signs, "Camphor, one cake only to a customer," were displayed in many drug store windows. For a few days the street cars smelled as though everybody had got out his winter flannels at once.

Three papers circulated in Providence carried advertisements of thirty-two different preparations which, according to the manufacturers, would prevent or cure influenza, some of these being changed frequently. Two advertisers quoted from reports of the Surgeon-General of the Public Health Service in such a way as to lead the innocent reader to assume that their particular patent was recommended by that authority. Another used extracts from a bulletin of a State Health Department as an implied testimonial.

Overnight compounds previously advertised as remedies for indigestion, rheumatism, constipation, headaches, as general tonics, etc., suddenly became specifics for influenza. Two well known dental preparations became grip preventives. For some mysterious reason the manufacturers of corn cures and hair restorers appear to have overlooked this golden opportunity. One astute manufacturer did, however, call attention to the possibility that cockroaches might spread the disease and advised free treatment of his insect powders.

The extent of this raid on the public pocketbook is indicated by the advertisement of one manufacturer that in 19 days he had sold more than two million jars of his preparation valued at over \$400,000.—*Bulletin of the State Board of Health of Rhode Island.*



INFANT HYGIENE



Edited by MRS. KATE BREW VAUGHN.

CARE OF THE BABY REALLY PAYS

A letter from a mother of an 100 per cent baby, who learned that it was better to care for a well baby by a schedule and according to rule rather than take care of an ailing baby all of the time:

R. F. D. No. 6, RALEIGH, N. C.,
February 6, 1919.

*Bureau of Infant Hygiene,
State Board of Health,
Raleigh, N. C.*

MY DEAR MRS. VAUGHN:

I am sending you herewith a picture of my baby, Richard, Jr. He was born April 23, 1918, weight seven and one-half pounds. I nursed him for six weeks and he gained one-half pound in that time. Owing to my own health I could not nurse him and my doctor advised me to put him on the bottle. Realizing that I knew nothing whatever about babies, I got all the advice from the State Board of Health for myself and baby. Two little books, *Prenatal Care* and *Infant Care*, were sent me and these I studied very carefully and was greatly benefited by doing so. I learned from these books that it was best to have regular hours to feed baby and to give him the same quantity at each feeding, to take very great care in preparing the milk and the bottles and to keep same chilled after the bottles had been prepared for the day. It was a good deal of trouble

to do all this, as I must do my work, but I have found that it is much better to take care of a well baby at regular hours than it is to care for a sick baby all the time, so Richard, Jr., has had regular hours for feeding, sleeping, bathing, and waking from the very first day. He has never had a mouthful of solid food from the table. He has had his milk and orange juice, and since he was two months old it has not been necessary to feed him at night, from 9 p. m. to 6 a. m.

My baby has always slept by himself, day and night, in a bed—not a cradle, with the windows down from the top. He has never had a taste of soothing syrup or baby medicine and he has never been sick. When he is constipated I use a soap stick and I have had to do that only three times in his life.

At the age of nine months, he weighs nineteen and three-quarter pounds, and as my cow was about to go dry I felt he needed more food and applied to you to help me supply him with the right kind. You will be glad, I am sure, to know that he likes his egg and toast and oatmeal jelly and that he continues to gain weight.

I am glad you think my baby is attractive, for no mother was ever prouder of her baby than I am of mine. I think the "regular" program has a great deal to do with keeping him well and happy.

Yours truly,
(Signed) MRS. RICHARD H. TYSON.

THE CORNERSTONE OF A CHILD'S FUTURE

BY DR. ALDERT SMEDES ROOT,
Consulting Specialist Children's Diseases,
North Carolina State Board of Health

The cornerstone of a child's constitution and future health is laid during the first two years of its life. It is in this period that 2,626 babies die from intestinal and diarrheal diseases in North Carolina every year. The reason for this is (1) the intestinal tract of an infant is very delicate and susceptible to attacks by germs, and (2) a majority of these deaths occur in babies fed on cows' milk in which the disease-producing germs are nearly always present UNLESS the milk is carefully cared for.

Every mother should strive to nurse her baby for twelve months, other things being added to the diet when the baby fails to gain in weight, because breast milk is the ideal food for this age. It is an ideal food because (1) it is sterile—that is, contains none of the germs which cause diarrheal diseases; (2) it contains the proper ingredients of food for the baby's nourishment; (3) the ingredients are in the right proportion; (4) are in a more digestible form than in any other sort of food.

It is a rare thing indeed that mother's milk disagrees with the baby, provided the hours of nursing and the baby's habits are regulated, and a great responsibility is taken when a baby under a year of age is denied its natural food.

Modified Cow's Milk

If the breast milk is insufficient in quantity, or poor in quality, and the baby does not thrive, then additional feedings or some other food should be supplied. In such a case, cow's milk properly diluted with water and sugar added to suit the age of the child, is

the food next best to mother's milk. We will speak of these dilutions or modifications, as they are called, later on.

How shall we know whether baby is thriving? The best and surest indication of this is the child's weight, for if there is not at least a weekly gain of four ounces, or, roughly speaking, a pound a month during the first year, the baby is not doing as well as should be expected. The best investment a mother can make is scales which will weigh in ounces, and if this is not possible, the baby should be taken to a nearby grocery store and weighed. The baby should be weighed once weekly—at the same time of day and the same interval after nursing.

Suppose the nursing baby fails to gain for three weeks or a month, and suppose it has been nursed at regular intervals of three hours during the day and twice during the night, up to six months of age, and then every four hours during the day and once at night, then the child should be given additional food.

How shall we know how to dilute the milk and to prepare it to suit the child's age? Most infants will do well on the following milk mixtures:

Baby Two Months Old:

Whole cow's milk, 9 oz. (or 18 tablespoons) (Cow's milk from which cream is not removed)

Water, 18 oz. (or 36 tablespoons)

Milk sugar, $3\frac{1}{2}$ level tablespoons

The infant should be fed $3\frac{1}{2}$ ounces every three hours for seven feedings during the twenty-four hour interval, and should be awakened for feedings during the day.

Baby Three Months Old:

Whole milk, 17 oz. (34 tablespoons)
Water, 17 oz. (34 tablespoons)
Milk sugar, 4 level tablespoons
Give 4½ ounces every three hours for seven feedings.

Baby Six Months Old:

Whole milk, 24 oz. (48 tablespoons)
Water, 12 oz. (24 tablespoons)
Milk sugar, 3½ level tablespoons
Give 6½ ounces every four hours for five feedings.

Baby Nine Months Old:

Whole milk, 1 quart
Water, 11 oz. (22 tablespoons)
Milk sugar, 3½ level tablespoons
Give 8 ounces every four hours for five feedings.

Method

The milk, water and sugar should be boiled for three minutes from the time the little bubbles begin to come through the milk. It is then cooled **QUICKLY** by placing the vessel containing the hot milk into a larger one of cold water; then into each of seven bottles, 3½ ounces of milk is placed. Bottles should have been thoroughly washed in warm water with soap by means of a bottle brush, and boiled for a few minutes. Filling is best done by pouring the milk into the bottles through a small glass funnel into which is tucked a piece of cheese cloth, which has been boiled. In this way the milk is thoroughly strained. Bottles containing the milk are then stopped with sterile, absorbent cotton (which can be bought at any drug store) and placed on ice in summer, if possible, or in a cool place in the winter. Just before giving to baby, the milk is warmed to about skin heat. Nipples should be

boiled when first bought and after this kept in a solution of boracic acid (one teaspoonful of boracic acid crystals to a glass of water). After each nursing they should be washed with soap and water and dropped into the boracic acid solution.

Boiling the milk kills the germs, which, as mentioned before, will be found in all cow's milk, but if the milk is not kept cold they will again make their appearance. These germs multiply by thousands in warm milk within a short time and hence it is most important to cool the milk as quickly as possible after milking and to keep the bottles containing the milk mixtures in a cold place, preferably on ice.

If milk cannot be kept cold, it is better to use dry milk—that is, milk which has been dried and made into powder. Depending upon the child's weight, so many tablespoons of this milk is used to sufficient number of ounces of boiling water to nourish. The Bureau of Infant Hygiene will be glad to tell you more about this. No milk should be used which is over twenty-four hours old, even if it has been boiled and kept on ice. Milk which has been taken from the ice and warmed for the baby should not be used again.

Additions

At nine months of age, oatmeal gruel (oatmeal cooked four hours in a double boiler and strained) should be added—one tablespoonful in the morning and one in the late afternoon at the same time milk is given, a pinch of salt added, and some of the milk from the bottle poured over it.

At twelve months of age the baby should be entirely weaned from the bottle and this schedule followed:

6:00 to 7:00 A. M.	Milk, $\frac{3}{4}$ cup, diluted with 4 to 6 tablespoons of barley or oatmeal gruel (oatmeal cooked 4 hours and strained.)
9:00 A. M.	Orange juice, pineapple or prune juice: 2 to 6 tablespoonsful
10:00 A. M.	Cereal (thoroughly cooked and strained) 1 large tablespoonful. Milk— $\frac{3}{4}$ cup—part of it on cereal; 1 piece crisp, dry toast.
2:00 P. M.	Beef juice, 2 to 4 tablespoonsful, or mutton or chicken broth, $\frac{1}{3}$ to $\frac{1}{2}$ cup; or $\frac{1}{2}$ —(later) 1 entire soft egg. 1 piece of crisp, dry toast. Milk $\frac{1}{2}$ to $\frac{3}{4}$ cup.
6:00 P. M.	Same as at 10:00 A. M.
10:00 P. M.	Same as at 6:00 A. M., but given from bottle.

Boil Milk During Summer Months

All babies whose diet consists entirely of cow's milk should have some vegetable juices, either orange juice, prune juice, evaporated peach juice or strained spinach. This prevents certain diseases which sometimes occur when the baby is wholly on cow's milk. Orange juice should be strained and diluted with equal parts of water and one-third of a teaspoon of sugar added.

Weaning

Weaning should be done gradually, the breast milk being gradually replaced by cow's milk. When cow's milk is first added to the diet it should be weaker than that which is required by the baby of a certain age. For instance, a baby six months old should begin on the one month old diet, and during the next three weeks it is gradually increased to the strength the child should have according to its age. Weaning the baby, or the addition of cow's milk to the diet, is a trying time for the mother. Babies who have had breast milk at first refuse cow's milk, but the mother must not become discouraged. It is a good plan to have her go out of the room at feeding time and let someone else give the baby the bottle. Every other day she can starve the baby for six or eight hours, provided the child is well nourished.

Cow's Milk Important

No other food will take the place of cow's milk during the first two years

of life. It is most important that children should be taught to take it. Cow's milk has a tendency to constipate most babies, and in this case the addition of one-half to two tablespoons of milk of magnesia in the night bottle will usually correct it.

Castor oil should not be given for constipation, as it leaves the child more constipated afterwards.

Practically none of the baby foods, which are sold at all drug stores, contain the ingredients of food in proper proportions for the baby. If continued for any length of time the baby will gain, but its flesh is soft and not healthy flesh, and if the baby becomes ill, it is often unable to resist disease. In addition, they frequently upset the baby's bowels because they contain too large an amount of sugar.

WOULD YOU SHARE YOUR CHILD'S FOOD WITH THE FLY?

Flies are the natural enemy of children, usually very successful enemies, because the younger the child the more helpless the victim.

Flies breed in filth—

Manure piles too near the house.
Open privies.
Dead carcasses.

Flies cause diarrheal diseases and typhoid fever.

The housefly will breed in almost any fermenting organic matter, but prefers horse manure and takes as second choice human excreta. The female fly

lays on an average 120 eggs at a time and may do this several times during her life time. During midsummer, eggs of the fly hatch in eight hours, and in five days the egg has enveloped to an adult fly capable of infecting the food for the entire family. The life of an adult fly is about 21 days, during which time said fly may deal death to as many people, if they are available and opportunity presents. Flies do not live on clean premises.

In some places the fly is called *ty-*

ing house

close by, a livery stable, a hen house, and an open privy contributed their quota of flies, made eating a rather dubious and hazardous affair. Aunt Betsy helped to biscuits with one hand and "bressed" the flies with a peach tree brush wielded in the other. When much occupied, often the *bresh* failed its mark and flies fresh from pigpen or stable were *breshed* in the coffee of the guest. Aunt Betsy did not add to her popularity by suggesting that they



phoid fly, and in others, the *diarrheal fly*, and this should be taught to school children to remind them of the business of flies, that of causing typhoid fever and diarrhea.

A story was told by a "drummer," as the traveling salesman used to be called, which shows the attitude of mind of some people. Aunt Betsey Smith was the proprietor of an "eating" house at a crossroads town which was visited by most of the traveling men in North Carolina. Aunt Betsey's food was not bad for that type of eat-

throw the fly out. One guest, long a sufferer, and bolder than the balance, suggested one day that screens would solve the problem and undertook to explain how the house could be screened and her time and effort saved. After a lengthy and enthusiastic discussion, Aunt Betsy sighed and said "I 'low as how that would be mighty fine, but it would be right lazy like."

Only the shiftless parent will neglect the screening of the house.

Hot weather, filth, flies and diarrhea all go together — why? Flies breed

more rapidly in hot weather; they are dependent upon filth for a breeding place, and wherever there are flies and a baby in close proximity, there also will be found diarrhea.

The fly is bred in filth, hatched in filth, lives in filth, and is the filthiest creature on earth. The fly has the filthiest habits—one moment crawling over excrement and filth, the next flying in the window and alighting on the pie, or on fruit one is preparing to lift to the mouth.

Flies are not necessary and their presence in your home shows an indifference on your part to the health of your family, and your baby particularly.

If you desire to rid yourself of flies, it will be necessary first to protect all food from their contamination. To do so, screen the windows, and doors, cover the garbage pail, clean the stables, build sanitary privies, construct fly trap and use a swatter. Second, get your neighbors to do likewise. Get your community interested in exterminating flies, get the boys and girls interested in fighting them, get the boys to making fly traps, and teach the children to hate flies and to be ashamed to have them about, swatting them whenever they make their appearance in the house. Start the campaign before the flies get a start—begin with the fight before the eggs are laid or hatched—and keep it up without ceasing.

Babies are the prey to flies; if their bed is exposed to flies they crawl all over them during their daytime sleep, speck their faces and lips. The food and its containers are not forgotten by the fly, as they particularly like the articles of food usually given to the child. All babies have not the robust constitutions to throw off the germ deposited by flies, which get into their stomachs and intestines. As an act of humanity everyone should protect the

child from the fly, but a parent should be *ashamed* to allow his child to be exposed to the danger of the filthiest of all creatures—the Fly.

INVITATION TO EXPECTANT MOTHERS

Time was when women were wont to withhold even from their most intimate friends the fact of their expectant condition. As the farmer has been benefited by expert advice in the raising of stock and the selection of the proper crops for his fields, so the woman of the State who is raising the most wonderful crop realizes that the advice of physicians and nurses is of such vast importance that the false modesty of a few years ago has been lost.

Ten years ago a body of women discussed books, new patterns for knitting, embroidery, and crochet, but maternity was too sacred or intimate a thing to be spoken of in groups and it was only when with "one of the neighbors" that the sacred function was discussed, too often with harrowing details, and the interviews were anything but reassuring, and interspersed as they were with folklore and superstition, which would not be countenanced by the farmer regarding his stock, left an unwholesome jumble of ideas in the mind of the expectant mother, and at the very time when of all others she should be reassured and comfortable.

Now because of the very sacredness and responsibility of maternity, as it is realized, prenatal care is attracting the attention of all women. Thoughtful husbands are making every effort to procure for their wives constructive information from some recognized source.

The Bureau of Infant Hygiene, State Board of Health, invites the expectant mothers to write for the advisory letters.

K. B. V.



The

The Health Bulletin

Published by THE NORTH CAROLINA STATE BOARD OF HEALTH

This Bulletin will be sent free to any citizen of the State upon request.

VOL. XXXI (33)

MAY, 1919

No. 11



His Excellency, THOMAS WALTER BICKETT
GOVERNOR OF NORTH CAROLINA

FREE PUBLIC HEALTH LITERATURE

The State Board of Health has a limited quantity of literature on health subjects for free distribution. If you are interested in one or more of the following subjects, or want same sent to a friend, write to the State Board of Health for free literature on that particular subject.

WHOOPING-COUGH	SANITARY PRIVIES	GERMAN MEASLES
HOOKWORM DISEASE	RESIDENTIAL SEWAGE	TYPHOID FEVER
PUBLIC HEALTH LAWS	DISPOSAL PLANTS	DIPHTHERIA
TUBERCULOSIS LAWS	EYES	PELLAGRA
TUBERCULOSIS	FLIES	CONSTIPATION
SCARLET FEVER	COLDS	INDIGESTION
INFANTILE PARALYSIS	TEETH	INFANT CARE
CARE OF THE BABY	CANCER	CHILD OF PRE-SCHOOL
FLY PLACARDS	MALARIA	AGE
TYPHOID PLACARDS	SMALLPOX	CORNER STONE OF
TUBERCULOSIS PLACARDS	ADENOIDS	CHILD'S FUTURE
CLEAN-UP PLACARDS	MEASLES	PRE-NATAL LETTERS
SPITTING PLACARDS		

SEX HYGIENE BULLETINS

SET A—FOR YOUNG MEN

A Reasonable Sex Life for Men.
Sexual Hygiene for Young Men.
Vigorous Manhood.
Smash the Line. (The case against the restricted district.)
List of Reliable Pamphlets.

SET B—FOR PUBLIC OFFICIALS AND BUSINESS MEN

Public Health Measures in Relation to Venereal Diseases.
Venereal Diseases—A Sociologic Study.
Smash the Line. (The case against the restricted District.)
The Need for Sex Education.
A State-Wide Program for Sex Education.
List of Reliable Pamphlets.

SET C—FOR BOYS

Vigorous Manhood. (Especially for boys 12 years of age and over.)

NOTE.—For boys under 12, see "When and How to Tell the Children" (Set D); portions of "Vigorous Manhood" also may be read to younger boys. Boys 15 years and over may be given Bulletin "A Reasonable Sex Life for Men" (see Set A), at the discretion of the parent.

Sexual Hygiene for Young Men.
List of Reliable Pamphlets.

Any of the above will be sent without charge. Please send for only those bulletins for which you have definite use.

SET D—FOR PARENTS

When and How to Tell the Children.
Venereal Diseases—A Sociologic Study.
The Need for Sex Education.
List of Reliable Pamphlets.

SET E—FOR GIRLS AND YOUNG WOMEN

Your Country Needs You. (Especially for girls 11 years of age and over.)

NOTE.—For girls under 11, see "When and How to Tell the Children" (Set D); portions of "Your Country Needs You" also may be read to younger girls. Girls 15 and over may be given "The Nation's Call to Young Women" at the discretion of the parent.

The Nation's Call to Young Women.
List of Reliable Pamphlets.

SET F—FOR TEACHERS

The School Teacher and Sex Education.
Sex Education in the Home and High School.
Venereal Diseases—A Sociologic Study.
Smash the Line.
The Need for Sex Education.
List of Reliable Pamphlets.

THE Health Bulletin



PUBLISHED BY THE NORTH CAROLINA STATE BOARD OF HEALTH

Vol. XXXIV

MAY, 1919

No. 11

EDITORIAL

THE CHILD AS AN INDEX TO OUR CIVILIZATION

Care for childhood someone has said, is the best index to a state of civilization. Care for childhood is perhaps the highest form or expression of foresight. As to the place of foresight in civilization, Prof. Irving Fisher has said:

"One of the first symptoms of racial degeneracy is decay of foresight. Normal, healthy men care for and provide for their descendants. A normal, healthy race of men and such alone, will enact the laws or develop the public sentiment needed to conserve natural resources for generations yet unborn. When in Rome foresight was lost, care for the future generations practically ceased. Physical degeneracy brought with it moral and intellectual degeneracy. Instead of conserving their resources the spendthrift Romans, from the emperor down, began to feed on their colonies and to eat up their capital. Instead of building new structures they used their old Coliseum as a quarry and a metal mine."

Eight million dollars (\$8,000,000) annually appropriated by the State for the education of its children one-fifth of whom die before reaching the school room and one-third of whom are dead before their school days are over, bespeaks a civilization right in principle but wasteful in practice. The State at last (through the vital statis-

tics law) has recognized the waste. Recognizing it, there is but one course to pursue—stop it.

To stop this enormous waste of its childhood, its future life, the first step was to get a plan. In formulating a plan, naturally the first move was to ascertain the more important causes of death. Vital statistics again. Here are the essential facts:

In 1917, 11,749 children under five years of age died, which was more than one-third of all the deaths occurring in the State. Of these deaths, 5,199 occurred in the last weeks of pregnancy and in the first month of life, and a large per cent of these deaths were chargeable to ignorance as to the proper conduct of pregnancy and the management of labor. Another 2,626 deaths of babies under two years of age were caused by diarrheal diseases of infancy resulting largely from improper feeding. The remaining 3,924 deaths were attributable to several causes. These figures teach two perfectly obvious lessons.

(1) The State must get in touch with its expectant mothers through the Bulletin, through the press, through local organizations, local departments of health, the medical profession, and public-spirited citizens especially the women, and furnish these mothers with the necessary and essential information as to the safe conduct of pregnancy and management of labor. One important agency in reaching these mothers will be the employment of public health nurses by counties or by

counties coöperating with the local Red Cross Chapter, by women's clubs, and various organizations.

(2) Our people must be impressed, thoroughly informed as to what constitutes the proper feeding of infancy, and, first, they must understand that 90 or 95 per cent of the mothers can if they only will, nurse their babies; that the incidence of disease among bottle or artificially fed children is 27 times greater than among breast-fed babies; that the death rate of bottle-fed babies is 10 times greater than among breast-fed babies. The breast is the baby's first birthright, and the greatest assurance of healthy infancy.

Second, our people must understand that when for some good reason breast-feeding is impossible or when the child is in its second summer and milk must be used, that any unboiled milk is of doubtful purity. There is no certified milk in North Carolina, practically speaking. Fresh cow's milk should be used only when the mother knows and controls the conditions under which the milk is produced, that is, when the family owns the cow, and when the milk is fresh, not over six or eight hours old, and has been kept in a cool place. The one safe thing to do with milk that is sold in the towns and cities of North Carolina is to boil it before giving it to the baby. This

kills the infectious germs that cause diarrheal diseases of infancy. Pay no attention to the hair-splitting doctrinaire who tells you that boiling the milk kills the vitamines of the milk and predisposes the child to scurvy and rickets. Tell him he is looking through a microscope; that he is seeing little things big and out of their right proportions. Tell him that scurvy and rickets are very rare diseases, comparatively speaking and that diarrheal diseases of infancy are the most frequent diseases to which a child is exposed, and the most deadly. Tell him, further, that you can restore the vitamines by giving the baby a couple tablespoonfuls of orange juice or other juices, or the liquor in which the cabbage or potatoes are cooked. What we shall teach in North Carolina with regard to the feeding of infants, then, is this: breast first, boiled milk next.

Much will be written and said in the next few years in North Carolina on the subject of infant hygiene, but all that is written and said must supplement, expand and emphasize (1) the importance of intelligent maternity, and (2) breast feeding and boiled milk. Any thing written or said that confuses or in any way obscures these two primary essentials in the conservation of infancy is, to say the least, of questionable value. W. S. R.

WAYS AND MEANS OF REDUCING INFANT MORTALITY IN NORTH CAROLINA

THE CARE OF THE NEWLY BORN BABY

In his "Light of Asia," one of the most beautiful poems in any language, Sir Edwin Arnold has something like this: "The babe is wise that weepeth, being born." Now, to unblushingly misappropriate his meaning in toto, literally applied, nothing is more important to a new-born babe than to set up a great big cry the moment it is born. It expels the mucus from its upper air passages, thoroughly aerates its lungs and fills its system full of oxygen, the elixir of life.

So the first and most important things to do for a new-born baby may be enumerated as follows:

1. Get it to cry lustily, and see that its throat is clean of mucus.
2. Have the room warm and quiet.
3. See that the "cord" has been securely tied and cut and that there is no oozing of blood from the cord, then wrap the baby in warm flannel or woolen cloth and place on its right side, leaving plenty of breathing space. Leave it alone for something like a half hour, being careful of course that it is in a warm, comfortable place and breathing naturally.
4. The nurse should then have the bath ready, preferably before an open fire or in the warmest part of the room. The books say that the water should be about 95° to 100° F., but no doctor ever heard of anyone being fool enough to plunge a new-born baby in water under about 105° F., which is about right, a few degrees over milk-warm. First thoroughly grease the baby all over with sweet oil, then use a soft cloth with a small amount of castile soap and bathe only part of the body at a time, keeping rest of body well covered. An "all-over" tub bath should not be given until the baby is two weeks old, as it is somewhat of a shock. Don't "redo" the bath, get it over with — a hurry as more harm is done through too much bathing than not enough. The baby should have a bath every day.
5. Dress the cord with a piece of clean sterile gauze, first covering the stump with a bit of boric acid powder. See that the bowel and urinary passages are open. A band is not generally necessary, but if used, should not be pinned tight as much injury often results. If used at all the band should be soft cloth and should be wide enough to cover the whole abdomen.
6. Cleanse the eyes thoroughly with a solution of boric acid, 10 grains to one ounce of clean boiled water, then, most important of all, drop into each eye two drops of a solution of silver nitrate. This is furnished free to all physicians and midwives by the North Carolina State Board of Health. See that it is used without fail, it may prevent blindness later on.
7. As soon as the baby is dressed and laid on its right side in a little bed of its own, where it should go to sleep without rocking, the nurse should see that the doctor or midwife fills out properly a birth certificate, which should be sent promptly to the Registrar of Vital Statistics for the township or city or town, so that there will be no question of its birth being properly registered.
8. After mother and baby sleep quietly from four to six hours the baby should be placed to the mother's breast, no matter if the milk is not flowing, practice will do it good. A few drops of clean boiled water given the baby from a wisp of wet sterile cotton is good for it. This should be repeated every few hours for the first few days. The water should be warm and never sweetened.
9. Don't forget to weigh the baby and remember to keep this up regularly once a week for the first two years, weighing each time on the same scales and with about same quantity of clothing on. The baby at birth should weigh from seven to eight

pounds. The gain in weight for the first several months should average something like four to six ounces a week.

10. The clothing should be loose and comfortable. No tucks or wrinkles should be in the clothing. But in summer the clothing should be very light.
11. Unless the family physician positively advises against it, the mother should always nurse her own baby. Breast-fed babies are healthier and happier, and the mortality is much lower among them than artificially fed babies. The mother's nipple should be carefully cleansed before and after each nursing, this often prevents infection of the breast and sore mouth for the baby. Let wet nurses alone unless the woman's blood is examined at a good laboratory. If it is necessary to feed the baby on modified cow's milk, get the services of the very best physician you can secure and follow his directions to the letter. It requires a great deal more study for a doctor to learn how to prepare proper food for a baby than it does to learn how to perform an operation for appendicitis.
12. A very young baby should sleep about 21 hours of the 24. Never rouse it to show to friends; and come what may, put it to bed at a regular hour each evening, the earlier the better. Never rock it to sleep, but put in its own bed and leave alone. Begin right. If it is rocked to sleep one night it will never forget it. If it cries one night after being put to bed and is taken up and rocked, all is lost.
13. Beginning at one month of age in summer and two in winter the baby should be taken out in the open air every day. But the eyes should be protected from light and it should be properly clothed. Cleanliness, sunshine, fresh air, simplicity, quiet, and cheerfulness should be the baby's portion.
14. Never allow a pacifier in a baby's mouth. Never give it any proprietary medicine, cold drinks or dope of any kind.
15. Finally, the two people in all the world for the young mother to fear most is the well meaning

neighbor woman with a bottle of "soothing syrup" or "worm medicine" and the doctor who insists on giving the baby castor oil. Don't let either get in at the door. Soothing syrup was devised to make millionaires and castor oil to grease cart axles.

G. M. C.

MATERNAL NURSING

The Bureau of Infant Hygiene urges all mothers, if they can do so, to nurse or partially nurse their babies for the first twelve months of life. There are a few conditions where this should not be done and these are (1) where the mother has tuberculosis in any form, or (2) epilepsy or insanity, (3) where she is in very feeble health or has a serious chronic disease, (4) where she has had child-bed fever, severe hemorrhage or convulsions at the time her baby was born, (5) where she is again pregnant.

In case the mother has syphilis she should nurse her own baby, but none other, as she would infect the latter. In case of premature babies, too weak to nurse, or those few who are too weak at birth to suckle, or in case of some defect, as hairlip or cleft palate, the mother should use breast milk obtained by means of a breast pump and this given with a medicine dropper or spoon.

Where the nipples are inverted and the baby unable to nurse, a breast shield should be used and this sterilized before using. Those made of glass with a rubber nipple are the best kind.

Where the baby fails to gain properly upon the breast (4 ounces at least a week) and is otherwise in good health, the breast milk is either too poor in quality or too small in quantity; in such a case the child should not be weaned, but cow's milk, prepared to suit the age of the child, added to the maternal feeding.

No mother who has become pregnant before her baby is a year old should

continue to nurse her infant. This throws too much of a strain upon the mother, who then is nourishing three lives. She should be absolutely certain of her condition before weaning the baby, being in mind that even during the period of nursing the menstrual periods do not return and when they do, they usually occur at irregular intervals. She should have her physician's advice if she suspects that she is pregnant.

PROPRIETARY FOODS

(Prepared Baby Foods)

To the mother who is so unfortunate as not to be able to nurse her baby it is a great temptation to use one of the many baby foods which are sold at the drug stores or groceries as a substitute for breast milk. In spite of all one may say as to the value of clean, fresh cow's milk properly prepared, for the baby, the mother's faith is often shaken by glowing advertisements of patent infant foods and she is tempted by their convenience to give credence to their flaunted virtues. She has reason to think these foods suitable and good for her baby, (1) because they are so attractively advertised by the manufacturer, (2) because so many babies do gain flesh rapidly where they are used, and (3) they are easy to prepare, much more so than in the case of modified cow's milk; but they are not the best substitutes for breast milk and in cases where the babies seem to be thriving and fattening it can be noticed in the majority of cases, that the flesh is soft and flabby—not good, sound, hard flesh such as it should be.

Children who are fed on proprietary foods are apt to be pale, they are subject to bowel upsets, and if the feeding is prolonged they are apt to have certain diseases. In one of these diseases, called rickets, there are changes in the bones with certain deformities; and another is scurvy, the most prominent

symptom of which is swollen, painful, and bleeding gums.

Proper Food for Two Years

Proper or improper feeding during the first two years of life determines more than any other factor whether the baby will develop into a strong, healthy, able-bodied adult.

Breast milk for the first 12 months gives the best start in life and, where this cannot be had, cow's milk properly modified to suit the age and weight of the infant is the next best choice. This modified cow's milk will be more nearly like mother's milk than anything else which can be obtained.

Why do most of these babies not thrive as they should on proprietary foods, or baby foods, as they are called? The reason is that they are not well balanced foods. By that we mean they contain too little fat (which furnishes heat and energy), too little protein (muscle-forming food), and they contain too little iron and mineral salts and have too much sugar (which furnishes energy and forms body fat).

One of the most common diseases of infants is called fermental diarrhea and is caused by the fermentation chiefly of sugar in the intestines. It is the large amount of sugar contained in these "baby foods" which causes this diarrhea so often in children who are fed upon them.

Many Kinds of Baby Foods

Proprietary foods or baby foods embrace a long list of condensed milks, malted foods, farinaceous or starchy foods, dry milks, etc. The latter can be used so that they will be nearer cow's milk mixtures than the others, as they contain more fat and protein and the sugar is not excessive. Some of these baby foods advocate adding cow's milk and these are open to less objection than those to which it is not added; but generally speaking the proprietary foods are neither necessary nor desirable.

DEVELOPMENT OF THE BABY

Every mother should know how the average normal baby develops, in order to compare with it the progress her own child is making. She should know

when her baby should hold up its head, stand, walk, and talk, for if her baby is far behind the average, probably there is either some physical or mental fault present.

The average baby should be able to accomplish these things:

At 3 to 4 months: Hold its head erect, the body being supported.
 4 months: Attempt to reach for objects.
 6 to 8 months: Sit alone for a short while without support.
 9 to 10 months: Stand on feet, holding to an object—as a chair.
 12 months: Stand alone. Walk with aid of mother's hand. Say a few words as "mama," "papa," "bye-bye."
 15 months: Walk alone.
 2 years: Connect words into a few short sentences.

There is a great difference in the time of walking of normal infants—some being able to do so at 10 months and others not until 18 months.

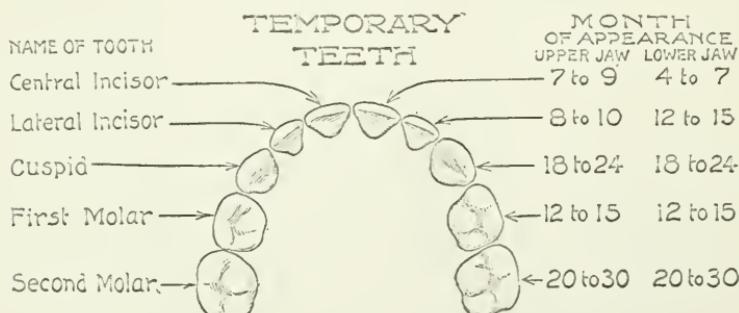
If the baby is several months backward in performing these acts, a physician should be consulted, for unless there has been a prolonged sickness or the baby is very poorly nourished, and cannot do these things at the required age, he probably has a disease affecting the bony tissues, called "rickets," or is mentally backward.

In connection with the development of the baby it is well to know when the teeth should come. The first teeth to appear are usually the two lower

ones in front, at 6 to 7 months of age. The baby should have:

At 1 year: 6 teeth.
 1½ years: 12 teeth.
 2½ years: 20 teeth.

Often healthy children do not cut their first teeth before 10 months of age, but delayed teething is very often due to rickets and it also occurs in babies who are poorly nourished from birth. Teething often lowers a child's resistance so that he catches cold easily or becomes susceptible to intestinal diseases. Therefore during the very warm days of summer the milk mixtures of bottle fed babies should be made about one-third weaker than ordinarily.



MR. HIGGINS DECLARES AGAINST THE PACIFIER

"I see by The Bulletin," remarked Mr. Higgins to his wife, "where the State Board of Health is warnin' ag'in' the use of pacifiers."

"Do tell!" commented Mrs. Higgins. "What will that Board be next doin' to ones chillun? First, it's registerin' the babies same as if they was thoroughbred cattle; then it's a buildin' a new kind of closet to keep off summer complaint an' the like; then vaccinatin' an' keeping 'em home when they has measles an' chickenpox; an' boilin' milk for the little uns an' not givin' of soothin' syrup an' catnip tea; an' the brushin' of their milk teeth an' keepin' 'em fixed just the same as if they was their second set. An' now they're incriminatin' the pacifier! What will come next? I don't place much stock on such unpractical idears. I bet if the truth were tol' that I have raised more young uns than that Board. Five out of my eight are livin' an' doin' well, exceptin, for coughs an' colds, earache and toothache, an' such natchel ailments like that, an' ever' single one of 'em was raised with pacifiers to keep 'em quiet. Next I looks for 'em to pass a law indictin' honest folk for havin' typhoid an' such diseases. That Board ought to be doin' somethin' practical to benefit folks an' leave off advocatin' of so many highfalutin' idears that it ain't had no experience with. That's my say!"

"This artickle," resumed Mr. Higgins, "says that pacifiers cause adenoids an' ear diseases an' deformed mouths an' bad teeth an' keep chillun in poor health an' not able to learn at school an' I sorter believe there's somethin' in it. Doc Hines tol' me today that our Marthy ought to have

her tonsils took out as they was the cause of her rheumatis' an' heart spells. An' you remember how Marthy, when she was a little kid, would yell night an' day if she didn't have a pacifier in 'er mouth. Doc says this made 'er mouth crooked—kept the arches from developin', he says—an' crowded 'er teeth an' caused 'em to decay. This with the tonsils an' adenoids, he claims, makes 'er have earache and rheumatis'. It may be this that is keepin' young John an' Sally from makin' their grades at school. I been blamin' the teacher but Doc, he says, it's mouth trouble an' that unless its fixed right away they'll allus be dullards an' are likely to have tuberculosis later on. What do you think of that?"

"Men are all alike," said Mrs. H., "they'll believe anything they read before they'll take the word of women what have had real experience in such things. Doc's been readin' medical papers or that Bulletin an' he's followin' what a set of hospital doctors say."

"Well, I am goin' to say one thing, an' this is that!" emphasized Mr. H. "I don't want to see Baby Woodrow with a pacifier ag'in, an' you musn't give it to him. He dropped it on the hearth while you was cookin' supper an' the cat was lickin' it when I saw it; an' the baby grabbed it an' put it back in his mouth before I could even wipe it off with my pocket han'kerch'ef. Such things can't be sanitary!"

"Now, Doc Hines tells me it will cost nigh on to two hundred dollars to have Marthy an' John's adenoids took an' Sally and Buddy's teeth worked over. Pacifiers are too expensive for me an' aint to be used in this fambly ag'in while I heads the house."

B. E. W.

NECATOR INFANTUM—THE MURDERER OF INFANTS

The open-back, insanitary privy is one of the chief murderers of infants in North Carolina. The death-rate in children under two years of age from the diarrheas, or summer bowel complaints, is appalling and is one of the chief causes of death during this period of life. And the fact that, here in North Carolina, a large percentage of these deaths and the many more cases of illness and suffering can be prevented, makes it all the more serious. The outlay of a few dollars to build a sanitary privy by the owner of each home in the State would save hundreds of babies from death and thousands from having to suffer and be crippled each year.

Many forms of bowel complaints with which young children suffer are very contagious and easily spread from one child to another if proper precautions are not taken. Also, and this is very important, an adult may be infected with the germs of dysentery without becoming seriously ill—or ill at all, for that matter—and still spread his disease to a child or to other adults. The child to whom the disease is given is not as strong as the grown-up person and, naturally, does not have as much resistance against disease germs. And so, it often happens that the child may become very ill and even die from an infectious bowel trouble caught from an adult who may not know that he is spreading such germs. To be specific, a parent may give the baby a type of diarrhea that will prove fatal to the infant without ever realizing what has been done.

It is here that the privy plays the chief part. The parent or adult with the infectious bowel complaint uses the open-back surface privy found at so very many of our North Carolina homes and the disease germs are left under the privy. But they do not

remain there. Flies—hundreds and thousands of them—visit the privy every day during the warm season and feast on the filth found there. From the privy they go into the house and carry this germ-laden filth to the food in the kitchen and dining room and even into the baby's milk, often alighting on the milk bottle or the baby's face. The baby, as well as other members of the family, eats the bowel material and the germs it contains. The baby, being the weakest member of the family may be the only one made sick. And everybody knows the suffering and anxiety caused by summer bowel complaint, and many of us have had to experience a death in the family from the disease.

If a family doesn't want to run the risk of sacrificing a child or infant to the fly and summer bowel complaint, the family can be insured against these. The policy is not expensive. The construction and maintenance of a sanitary fly-proof privy is all that it costs. And this insurance should be taken out early before the coming of summer and the deadly fly.

B. E. W.

DIARRHEAL DISEASES OF INFANCY

Two thousand six hundred and twenty-six babies under two years of age died in North Carolina last year of diarrheal diseases. Think of this waste of human life, of the actual economic loss, of the intense suffering of these little ones and the sorrow brought to the grief-stricken parents!

Can we not, by understanding more about the causes of these diseases, by the proper feeding of our infants and by instituting the proper treatment early, reduce this frightful mortality? It is necessary, first, to have a clear knowledge of the causes and so prevent their occurrence if such be possible.

First of all, an infant's intestinal tract is most sensitive to

- (1) Improper food
- (2) Infection by germs

Bear in mind that breast milk is the most easily digested food and is free from the germs which cause these diseases and hence every baby should, if possible, be nursed or partially nursed for the first year of life. Mother's milk then, is the first great preventive.

Proper bottle-feeding of well babies during the first year, when necessary, and proper feeding during the second year is the next important consideration and preventive. Schedules of feeding of infants at various ages and the method of preparing the food will be furnished by request to any one in the State by the Bureau of Infant Hygiene, State Board of Health Raleigh, N. C.

It is important to know that the most serious of all the diarrheal diseases is caused by germs which are swallowed by the baby. These more often come from impure milk than from any other source, and also from impure drinking water, and sometimes from food contaminated by flies.

Milk is easily made unfit for infant feeding. There are certain things you must do to keep milk pure during the process of milking. These are

- (1) Keep the stable clean;
- (2) Keep the cow clean;
- (3) Wash the cow's udders with soap and water;
- (4) Scrub your hands with soap and water;
- (5) Milk into a vessel which has been washed and scalded, and scald all other vessels into which the milk is poured;
- (6) Cool the milk immediately after milking and keep it cool.

After protecting the milk so far, you must further care for it according to these directions:

- (1) Boil the baby's milk mixtures, except in cold weather, for three or four minutes. Cool it quickly by placing the vessel of hot milk into a larger one of cold water. Pour into the nursing bottles, stop with sterile cotton and keep cold.
- (2) Boil the nursing bottles just before making up the milk mixtures.
- (3) Wash the nipples after each feeding with soap and water and keep in boric acid solution (1 teaspoonful of boric acid crystals to a glass of water).
- (4) Never use milk for the baby which is over 24 hours old.
- (5) Always wash the bottles immediately after the baby has finished its feeding.
- (6) Never warm a bottle over again which has been refused at a previous feeding.

Three Kinds of Diarrheal Diseases

Without going into details, let's understand a little more about the different kinds of diarrheal diseases. They occur much more frequently in summer for several reasons: (a) because it is harder for an infant to digest food in hot weather; (b) because germs multiply in the milk so much more rapidly and (c) because of the presence of flies.

There are three kinds of diarrheal diseases:

- (I) Simple indigestion
- (II) Indigestion with fermentation
- (III) Infectious diarrhea, often called colitis.

Simple Indigestion is caused by either too much food, or a milk mixture which does not suit the baby.

Symptoms: Loose stools, usually three or four daily, containing mucus and undigested food. There may or may not be slight fever.

Indigestion with Fermentation is caused by the action of germs in the intestines chiefly upon the sugar—also

upon the fat in the milk. This is the type which is so often seen when babies are fed upon prepared "baby foods," which contain a large amount of sugar.

Symptoms: Loose, green, mucus stools—three to six daily—which are acid as a result of which the baby's buttocks are "scalded." They are sometimes frothy in character. There is always some fever and often it is very high. The baby is distinctly sicker than in case of simple indigestion.

Infectious Diarrhea (Colitis) is caused by germs introduced from outside the body, having been swallowed by the child. These attack the lower part of the bowels, causing ulcers.

Symptoms: It may begin suddenly or follow indigestion with fermentation. The stools are frequent—the bowels moving as often as every half hour or hour. At first the stools contain mucus and undigested food, but later consist of mucus and blood. They have an odor resembling wet hay. Straining accompanies each stool—often very intense. There is abdominal pain and great prostration. The child has fever, heavily coated tongue and loses its appetite. In the case of those babies who survive, the symptoms gradually subside, but it is always a matter of weeks, and more often months, before they entirely recover.

Treatment: At the beginning of any of these three types of diarrhea, the treatment is the same:

- (1) Cleanse the intestinal tract;
- (2) Give the intestines a rest by stopping all food.

Cleansing the Intestinal Tract: This should be done at once, preferably by castor oil

- 1 teaspoonful under 6 months of age;
- 2 teaspoonfuls for a child 1 year old;
- 3 teaspoonfuls for a child between 1 and 2 years of age.

If castor oil is vomited, give broken doses of calomel—1-6 of a grain every half hour for six doses for a child 1 year old and followed 2 hours after the last powder with 2 teaspoonfuls of milk of magnesia.

Do not repeat the purgative. Much harm is done by giving castor oil day after day, as is so frequently done in these cases. Give, therefore, a sufficiently large dose of purgative to empty the intestines thoroughly and then stop.

Intestinal Rest: Give nothing but barley water or plain boiled water for 12 to 24 hours. (The mother who is nursing her baby can use a breast pump during this time.) At the end of 12 to 24 hours, a baby who is nursing its mother should be put to the breast every *four* hours and nursed for *five* minutes only. Boiled water must be given between nursings. Nursing may be gradually increased so that in three or four days the baby will have its usual amount of food.

In bottle-fed babies: after the starvation period, buttermilk freshly made is the best food. The buttermilk should be kept cold and the amount given the baby boiled and cooled just before feeding. *No sugar* should be added to the buttermilk, as sugar and cream are harmful in these cases. For an infant under 6 months of age, 1 to 2 ounces of buttermilk with an equal part of water, given every four hours and boiled water between feedings. For a baby over 6 months, three to four ounces each of buttermilk and water (boiled) used at each feeding at first, and after a few days two parts of buttermilk, one part of water. When the stools become solid, boiled skimmed milk and water mixtures, to suit the age of the child, may be given. The cream is allowed to rise on the milk and all of it removed, for the first few days—then gradually left on the

milk—at first one-third, a few days later one-half, then two-thirds, etc. Sugar is added last to the milk mixture, but not until the bowel movements have decreased to two daily. At first one-third the usual quantity is added, then one-half, later the total quantity.

Where buttermilk cannot be had, dry milk can be used to advantage. Dry milk may be ordered from any retail druggist in Raleigh, Charlotte, Greensboro, Asheville, and Wilmington. They can secure it through the wholesale druggists in these cities, if they do not carry it in their stock. Dry milk is cow's milk which has been dried and powdered and to which nothing has been added. When mixed with the proper amount of water, it makes a well-balanced food, thereby differing from most of the prepared "baby foods." In case of a well baby, $2\frac{1}{2}$ level tablespoonfuls are required in 24 hours for each pound the baby weighs. It is prepared as follows:

The proper amount of water at a feeding is brought up to boiling. This removed from the stove and the dry milk stirred in and then cooled to about body heat and given. Each feeding must be made at the time it is given the baby. The quantity of water used for different ages is

1 month	..	$2\frac{1}{2}$	ounces
2 months	..	$3\frac{1}{2}$	ounces
3 months	..	.4	ounces
4 months	..	.5	ounces
5 months	..	.6	ounces
6 months	..	.7	ounces
7, 8, 9 months	..	.8	ounces

In case of diarrheal diseases after the starvation period, only one-fourth of the required amount should be given at first. The medical treatment of these cases must be under the care of a physician. Feeding these children is by far the most important part of the treatment and the fewer drugs used the better for the child. There

is always great danger of further upsetting the stomach and intestines by their use. As a matter of fact, most of these cases, unless they are infectious diarrhea, require no drugs whatever, except the initial purgative but the greatest care in the kind of food and its preparation. Those cases which have indigestion with fermentation—where the stools are acid and turn the skin of the buttocks red, etc.—are often benefited by giving bulgarian bacilli, either in tablet or liquid form. These should be given as often as every two or three hours.

ALBERT SMEDES Root, M.D.

A VACCINE THAT WILL PREVENT DIPHTHERIA

Among the recent important discoveries of preventive medicine are methods for diagnosing and for immunizing (vaccinating) against diphtheria. An application of the new method of finding out who is and who is not susceptible to diphtheria (the Schick test), and of giving the newly-discovered vaccine for the disease (toxin-antitoxin) should prevent at least three-fourths of the four hundred deaths which occur annually in North Carolina from this cause. Of the four hundred deaths from diphtheria each year, 75 per cent of them occur in infants and children under five years of age, 20 per cent between the ages of five and ten, and only 5 per cent after ten years of age. By far the greatest mortality is in the first five years of life, and by vaccinating infants and children under ten years of age, diphtheria can almost be wiped out of the State.

The vaccine (toxin-antitoxin) for diphtheria is prepared by mixing diphtheria antitoxin and diphtheria toxin. This is injected under the skin of the arm in the same manner in which typhoid vaccine is given. Three

doses given at intervals of a week are necessary to produce immunization. The immunity, however, develops rather slowly and, for this reason, is not suitable for use during a sudden and acute outbreak of diphtheria when a considerable number of children have been exposed to the infection and have become carriers of virulent diphtheria germs. In such cases prevention is more quickly established by prophylactic doses of antitoxin, though the prevention is of very short duration.

It has not been definitely learned how long the new diphtheria vaccine will keep off the disease but the period is longer than four years as a number of cases have been under observation for this long a time; therefore infants who are given immunity against diphtheria with toxin-antitoxin will be protected through the most dangerous period of life. As has been stated, the immunity following the vaccine is slow to develop, four to ten weeks after the first dose of the vaccine being required to prevent the disease. Since a majority of the cases of diphtheria occur during the first five years of life it is recommended that infants and small children be given the vaccine as a precautionary measure.

Toxin-antitoxin is being used by a number of health officers and pediatricians both in the United States and some of the European countries with wonderful success. Children and babies who have had toxin-antitoxin given them have been exposed to diphtheria, infected with the diphtheria germs but never developed the disease. In order to protect children and infants against diphtheria mothers are advised to have their children given toxin-antitoxin.

The State Laboratory of Hygiene, Raleigh, N. C., supplies diphtheria vaccine (toxin-antitoxin) upon request to physicians and health officers of the State.

A. McR. C.

APPEAL TO MOTHERS BY
MOTHERS OF THE STATE
EXECUTIVE MANSION,
Raleigh, N. C.

May 1, 1919.

"A child more than all other things
brings forward-looking thoughts."

We who today are planning and building for the future, find in our children the greatest asset of the state and nation. We can give them the chance we never had; we can make of them what we yearned to be; we can realize through them the dreams we could not, or would not make come true. Let us then each one, mothers and fathers, and you whose dream-children call with outstretched hands, give of our very best to the babies of our State.

Let us see to it that they enter the race with no handicap that they go forward with sound minds in sound bodies, that they are trained in and inspired by high ideals and noble thoughts so that like Sir Galahad of old they may say,

"My strength is as the strength of ten
Because my heart is pure."

Better mothers and fathers make better babies and better children; better babies and better children make better men and women; better men and better women make a better state, a better nation. Let us make ours the very best.

FANNY YARBOROUGH BICKETT.

To North Carolina Club Women:

All over the State this spring there is a most encouraging awakening of club interest and a sincere desire among club women to make our organizations of more definite and lasting service to our State than ever before.

The work that is behind us, with all its progress, is but a promise of what the future may be if we choose to make it so by careful devising of ways and means, coördination of effort and a willingness to give unselfish service.



"As the earth, wealth, art, property, all must in a few years be given over to these little ones, may we not wisely use a large proportion of its income to make them worthier to possess it."

—Robert Hunter

By courtesy of Department of Health, City of Newark, N. J.

As to the future club activities I wish to suggest that they are planned with a view of coöperation with the different Departments of State, as far as possible, in order that our energies and influence may be rightly directed and our work carried on along definite and well-thought-out lines.

In health work especially do we need to be directed by the State Department for in no other regard are we so apt to be unconsciously influenced by fads, unofficial information, new and attractive but unwise ideas. Our State Board of Health through its various departments is the interpreter of scientific knowledge, health laws and regulations, and should be the source of our information along these lines. In whatever campaign the State Board wishes to launch at any time, I ask the loyal support and influence of the Club Women and also that the various women's clubs which have health departments, do child welfare work or conduct a "Baby Week" campaign, seek the directions and help to be had from the State Board of Health. In this way only can we standardize our work to some extent and all the Clubs progress along the same line.

Cordially yours,

Mrs. CLARENCE A. JOHNSON,
President N. C. Federation Women's
Clubs.

A FUNDAMENTAL WORK IN CHILD SAVING

By R. F. BEASLEY,
State Commissioner of Public Welfare.

I know of no work in all the range of child welfare propositions that is more fundamental and has promise of more widely beneficial results than

that of the Bureau of Infant Hygiene of the State Board of Health. It is practical eugenics reaching right down to the spot where it is most needed.

It has long been the whimsical expression of some one that the education of a child should begin a hundred years before its birth. For the present generation this chance appears to have been missed. But the Bureau of Infant Hygiene proposes to do the next best thing, and that is wholly a practical thing—to begin with the nascent child and teach the expectant mother how to care for herself during the prenatal period and for the child during its period of infancy and early childhood. And the excellent thing about this plan is its extreme practicability and the simple machinery for carrying the help intelligently and effectively to so many mothers.

All social, health, and hygiene problems are so closely inter-related that every corrective effort in one direction must help all others. We do not know yet where to place the greatest stress, but it is certain that personal health and hygiene lie close at the bottom of it all. One of the beauties of this work is that it is not a shot in the air. It goes right to the spot where we know it is sorely needed both from a humane and an economic standpoint.

By and by we shall have a constructive program for child welfare which will embrace every need for health and education for every child from its mother's breast to adolescence. Infant mortality is a fundamental problem. Save the child in its right to health and life and growth and you have begun at the bottom of all problems. The intelligent mother is the basis of civilization. Mrs. Vaughn's great work should have the practical co-operation of every welfare worker.

PROGRAM FOR GRADED SCHOOLS
BABY WELFARE WEEK, MAY 11th

Babies' lives, to say nothing of their growth and development, depend upon being well born and healthy at birth, and upon being given the following advantages:

First, Proper Food:

- (a) Mother's milk best;
- (b) Cows' milk boiled and cooled and kept cold until needed, then heated. Boiling is done to kill germs. Germs often grow in milk boiled in the morning and allowed to become heated during day—hence the necessity to keep cold.
- (c) Dried milk—with boiled water and sugar added—when ice is not procurable and cows' milk cannot be kept cold.
- (d) Orange juice or some other fruit juice.
- (e) Regularity in feedings: three hours until 6 months of age; four hours after 6 months.
- (f) Cleanliness—being sure everything has been scalded or boiled before using, and kept carefully covered from flies.
- (g) At nine months in winter and twelve months in summer, baby should be given beef juice, broths, toast, coddled egg in addition to milk.
- (h) Water boiled and cooled should be given baby frequently during the day. When baby cries it is often from thirst.
- (i) Baby is too weak and undeveloped to walk and in like manner baby's digestive organs are too undeveloped to digest the food of an adult, or resist the attack of germs.

Second, Sanitary Conditions:

- (a) Flies are the cause of most of the diarrheal diseases. If diarrhea does not kill the child, it leaves him weak and susceptible to other diseases.
 1. Fly-proof privies insure against flies.
 2. Covered garbage pails and clean premises;
 3. Screened houses and mosquito netting covering baby's bed while sleeping.
- (b) Thoroughly wash everything which comes in contact with the baby—wash mouth of milk bottle before pouring out milk, cup before measuring, etc.
- (c) Allow no one to kiss the baby.
- (d) Everyone should wash his hands before eating or handling food for any one to eat.

Third, Clothing:

- (a) Dress the baby for comfort: warm and lightweight clothes for winter, and coolest possible in summer. Many people dress children too much in hot weather.
- (b) Babies suffer from colds in winter because they are kept in close, poorly ventilated rooms and then subjected to draft, or because they are taken out in a high wind.
- (c) Babies too often suffer from heavy clothing in summer time. Woolen band around the stomach of baby in summer is totally unnecessary and sometimes dangerous.
- (d) Cover the babies to suit the weather during their sleep.

Fourth, Rest:

Babies should be encouraged to sleep all possible.
Never awaken a baby for anything but to feed it.

This is done for a few times to establish a habit of punctuality.

Fifth, Every boy and girl in North Carolina can help to save the babies at home and in their community by killing the flies and cleaning up the premises. Insist that your father procure for his family a sanitary privy.

Also by boiling and cooling the water the baby at home is to drink, and telling others that you know it is a necessary thing to do.

By being sure that hands are clean before you touch anything which baby is to eat or drink, and to consult your mother before giving the baby ANYTHING to eat. A good plan is not to eat before the baby, as it will then not be tempted.

Do not kiss the baby—you may have a cold, a sore throat, or some disease which you would surely not want to pass on to the baby.

INFANT MORTALITY

UNDER ONE YEAR OF AGE AND UNDER FIVE YEARS OF AGE,
OF SPECIAL DISEASES, 1917

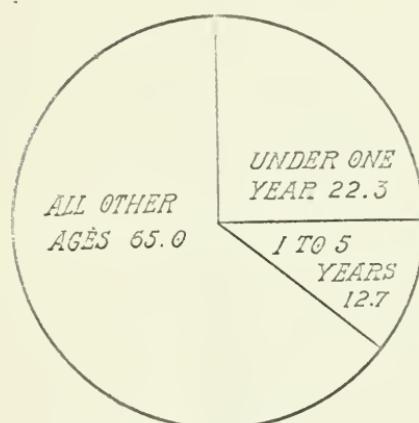


TABLE I

Mortality by age, stillbirths excluded. Sta-
tistics for 1917.

Causes of Infant Mortality. Deaths under
one year, by speci- seases, for 1917.

TABLE II



TABLE I

MORTALITY BY AGE, 1917

Age Groups	Number of Deaths	Per Cent of Total
All Ages.....	33,980	100.0
Under One Year.....	7,596	22.3
One to Five Years.....	4,330	12.7
Total Under Five Years.....	11,926	35.0

557 deaths from accidents of pregnancy.
3,153 stillbirths not included in table.

TABLE II
CAUSES OF INFANT MORTALITY
(Deaths Under One Year)

Numbers International Classification	Causes and Number of Deaths	Per Cent of All Causes
104	All Causes.....	7,506 100.0
86-98	Diarrhea and Enteritis.....	1,218 16.0
	(S9) Bronchitis, Acute.....	66
	(91) Broncho-Pneumonia.....	360
	(92) Lobar Pneumonia.....	257
	Other Diseases of Respiratory System.....	41
	(Total).....	733 9.7
6-10 28-35	Chief Communicable Diseases:	
	(6) Measles.....	213
	(7) Scarlet Fever.....	3
37	(8) Whooping-Cough.....	340
	(9) Diphtheria and Croup.....	75
	(10) Influenza.....	51
	(28) Tuberculosis.....	30
	Other Forms.....	18
	(37) Syphilis.....	51
	(Total).....	787 10.4
	Congenital Malformation and Debility:	
	(150) Congenital Malformation.....	181
	(151) Congenital Debility, Icterus, and Scierema.....	1,688
	(Total).....	1,869 24.6
	All Other Causes.....	2,969 39.3

Furnished by the Bureau of Vital Statistics.

The Bureau of Infant Hygiene was created September 1, 1918. The first two months were spent by the Director in looking over the field of Infant Hygiene as operated in other states. On account of the influenza epidemic it was found that much of the work had been interfered with and, returning to North Carolina, it was found that no organization would look upon the work as everyone was deep in the relief work thrust upon them by the epidemic in our own State.

The need of the work in North Carolina was pointed out by statistics graphically shown in the foregoing

diagram furnished by the Bureau of Vital Statistics of the State Board of Health. It was decided that instead of trying to cover the whole field of infant mortality, to concentrate on the causes which may be looked upon as largely preventable. Diseases due to pregnancy, stillbirths, and deaths due to congenital diseases are the foundation on which prenatal work is built. Deaths from diarrheal diseases is a subject on which our best efforts are being expended in the infant hygiene work.

Dr. Aldert Smedes Root was engaged as consulting pediatrician, and after

determining of what sort of instruction the women of North Carolina stood in need, we began to seek for those whom we might help.

First in the order of care to be given, and therefore the first in order of prevention, comes the beginning of the prenatal period. During this time the child is either well formed or malformed, and if the latter, the defects are likely to be irremedial, hence this is the most important period of life. What can be done, how can we prevent things from going wrong? Only by making it easier for them to go right than to go wrong. Prenatal care must first then be educational—the expectant mother must be taught how to care for herself so that her baby may be properly developed and to so take care of herself that maternal nursing after the delivery, will be possible.

Next in importance in the prenatal state is supervision, watching for the signs of possible evil and, at the appearance of trouble, to consult a physician as many a serious condition may be prevented thereby.

The third point in importance is the care of the mother at confinement and, as about sixty per cent of the births in North Carolina are attended by midwives, the supervision and instruction of these seem a necessary part of our work.

Finally the care of the newborn and general health condition of the home, and food of the baby.

The Bureau of Infant Hygiene is taking up diarrheal diseases, from the standpoint of bottle feeding and, what is more prevalent in North Carolina, breast feeding at irregular intervals with supplementary feeding from the table. The instruction, then, in feeding and care as it applies to clothing, bathing, and ventilation the first two years of the baby's life is important.

Ten counties in North Carolina employ a whole-time county health

officer in coöperation with the State Board of Health, and many of these counties being in their third year, according to agreement, are entitled to a nurse for infant hygiene. At the present writing two of these counties, namely Wilson and Northampton, have just started this phase of the work with a nurse especially trained and supervised by the county health officer. A number of counties will have this as part of the county work before the year ends.

Realizing that this is but part of the program, the Bureau of Infant Hygiene has become active in creating an interest in the work as a State agent and has sought to enlist the aid of all organized bodies in disseminating information regarding the bureau, procuring the names and addresses of expectant mothers and the names of bottle-fed babies, or those maternally nursed and given supplementary feedings of cow's milk or food from the table, or babies who for any reason are not progressing as they should. Letters explaining our work were directed to the woman's clubs of the State and their coöperation asked in organizing clubs for instructing mothers of the community whose education along the lines of health has been defective. Many of the clubs professed an interest in the matter, but at the time they were in no position to do constructive work of this type, as their forces were dissipated in doing war and relief work. These clubs are beginning to take cognizance of the bureau and adding their efforts to our own, receiving instruction of a standardized character from the State Board of Health which may be applied to their club health departments. In all of the District Federation meetings held during the spring, health, and especially the health of the infant, has been emphasized. Three clubs—Greensboro Woman's Club, Wilson Woman's Club, and the Rich Square

Betterment Association—are doing constructive work in coöperation with the State Board of Health.

Home demonstration agents under their community plan are of the greatest aid in securing the names and addresses of ailing babies, expectant mothers and the mothers of bottle-fed babies, and they are even instructing the mothers in their own communities in the care of mother and baby. These demonstration agents have from ten to fifteen well organized community clubs in their counties and these offer an excellent vehicle through which the Bureau of Infant Hygiene may work. Twenty-one demonstration agents have given us personal coöperation in as many counties. The work has been of the highest type and they have rendered the greatest assistance yet received by the Bureau of Infant Hygiene from an outside agency. Three home demonstration agents have devoted a week to the baby, in which weighing and measuring was done, and coöperation of community nurse attached to a mill or factory, was secured, and many defects have been brought to light and are under advisement.

Townships have conducted clean-up week in the interest of the Safety League and the Bureau of Infant Hygiene, citizens cleaning up individually their own premises and collectively giving attention to churches and schools. One town, Rich Square, in Northampton County, voted a sum of money sufficient to clean up streets, etc., outside of the work contributed by individuals.

Registrars were appealed to and have responded very generously. These have given the names and addresses of expectant mothers and bottle-fed babies, and this in itself has been of inestimable value in aiding us to advise women.

County supervisors of rural schools have supplied information regarding

mothers of pupils under their supervision.

One of the most definite helps has come from the mission nurses in the mountains. Public health nurses attached to the U. S. Public Health Service, workers in the W. C. T. U., ministers, cradle-roll superintendents, officers and welfare workers of industrial corporations have all contributed to put us in touch with those women requiring the advice which we have to give. Manufacturers have taken a keen interest in the development of the work and as many as thirty have instructed their welfare workers to coöperate with us. A few ministers have asked cradle-roll superintendents to coöperate with the bureau and several have furnished us with information regarding conditions in their communities.

Physicians generally have not been asked to coöperate, as we have been waiting until we had something definite to use as an illustration before we offered them this service but there are seven who send the names of patients to this bureau for this information and we frequently get requests from women for the prenatal letters, sent at the suggestion of their physicians.

In the January Health Bulletin this bureau issued an article addressed to the general public which brought a large number of requests for information relative to mothers and babies.

We have since January 1st sent out prenatal instruction in the form of nine letters, one for each month of the pregnancy, to 579 expectant mothers, whose names and addresses have been furnished us from the before mentioned sources. To all of these have also been sent the Children's Bureau publication "Infant Care," and aside from the regular information, special information to suit unusual conditions. Since January 1st we have sent infor-

mation regarding diet of bottle-fed babies, and maternally nursed babies who are receiving supplementary feedings to 375 mothers. The pamphlet, "Infant Care," has been sent to 1,861 mothers of newborn babies who were not registered with us but whose names were taken from birth certificates received at the Bureau of Vital Statistics.

With the intensive work of the week of May 11th, we hope to see a big step forward in the work of conservation of life of mother and child. K. B. V.

TUBERCULOSIS AND THE BABY

Contributed by
DR. L. B. McBRAYER

It is claimed by some that all tuberculous infection takes place in childhood; this has not been proven. However, it is agreed by all that children are less resistant to infection with the germ of tuberculosis than adults. In fact it has been proven by the Bureau of Tuberculosis of the North Carolina State Board of Health, right here in North Carolina, that where a case of tuberculosis occurs in a family and no precautions are taken to prevent the infection of other members of the family, by shielding the mouth with a piece of gauze or cloth or paper napkin when coughing and expectorating into proper containers (sputum cups)—the gauze or cloth or paper napkin and the sputum and cup being destroyed by burning—that 90 per cent, that is nine out of ten of the members of that family will contract tuberculosis. This has been corroborated by the United States Public Health Service by some surveys made in Wisconsin.

It has also been proven that the younger the child the more violent the infection and the earlier the death. Tuberculosis is not so rapidly fatal as diarrheal diseases of infancy and it is difficult for us to visualize on the fact that a death from tuberculosis at 14 to

20 or 25 years of age is due to an infection received from a mother or grandparent or father or brother or someone in the family when the child was a few months to a few years old, but such is a proven fact.

With this evidence before us we are led to the conclusion that the prevention of infection of children with tuberculosis is second only in importance to the prevention of the diarrheal diseases that kill so many babies, for tuberculosis pushes the diarrheal diseases of children a close second in toll of death.

Milk Infection

Children can be and are infected through the milk of a mother who has tuberculosis and through the milk from a cow that has tuberculosis, hence it follows that if a baby's mother has tuberculosis it should never be put to the breast. This seems to protect the baby from becoming infected through its mother's milk and also prevents the drain of the nursing of the infant on the tuberculous mother.

Of course it goes without saying that we wouldn't want to infect an infant with tuberculosis through cow's milk. The State Dairy Department and the United States Dairy Department of the departments of Agriculture are co-operating in examining cows and advising us whether or not they have tuberculosis, in which case we would not use the cow and would kill her to keep her from infecting other cows, hogs, and even children.

It may be that it is not convenient to get your cow examined for tuberculosis promptly, in which case there is another procedure that is perfectly safe, to wit: *pasteurization of the milk*. This not only destroys the germs of tuberculosis but destroys the germs of all other diseases, such as the germs of typhoid, dysentery, and diarrheal diseases. The proper method of pasteurizing milk is fully set forth on another page of this Bulletin.

CONTEST

\$100.00 in Cash Prizes

To School Children and Residents of New Hanover County.

A good opportunity to earn money and at the same time help us get rid of the

Filthy, Disease-Carrying Flies

Secure a trap before April 20th. Use fresh bait every week. Bring your traps to Department of Health for weighing the fly contents. Take your trap home empty and rebait. To those having the most flies in 90 days ending July 19, prizes will be awarded.

THE PRIZES:

To Employees of Hotels, Restaurants, Bakeries, Stables and other mercantile establishments,

ONE PRIZE - - - - - \$25.00

To White School Children

First Prize	\$10.00
Second Prize	7.00
Third Prize	5.00
Fourth Prize	3.00
Fifth Prize	2.50
Ten Prizes of \$1.00 each	

To Colored School Children

First Prize	\$10.00
Second Prize	7.00
Third Prize	5.00
Fourth Prize	3.00
Fifth Prize	2.50
Ten Prizes of \$1.00 each	

Ask for a trap at once. Apply at

OFFICE OF BOARD OF HEALTH

Wilmington, N. C.

[The above is a copy of hand-bill which has been generously distributed throughout New Hanover County by the Department of Health, Wilmington, N. C.

The result of this contest will not only have a wonderfully good effect in the reduction of flies in the county, but it will be the means of giving a liberal education to the people as to the habits of flies and the best methods of combating the pests. It will also be the means of instilling rational ideas of cleanliness into the school children.

The Department of Health of Wilmington is to be commended for this action and it is hoped that many other counties in the State will follow its example.]

PROCLAMATION

“A little child shall lead them.” In this celestial saying of the Great Teacher there is a profound biological as well as spiritual truth. In the climb of the race to higher levels better babies lead the way. The crusade for better babies insures a double blessing. It will bring a hardier race, and then the finest traits in men and women come to flower when they are taking thought of these little ones.

Therefore, I, Thomas Walter Bickett, Governor of North Carolina, do set apart the week beginning May 11, 1919, as Better Babies Week, and during this week urge our people to study and put into execution all the plans devised by the State Department of Health for preserving the lives and promoting the health of babies in North Carolina.



Governor.

THE Health Bulletin



PUBLISHED BY THE NORTH CAROLINA STATE BOARD OF HEALTH

Vol. XXXIV 33

JUNE, 1919

No. 6 12

EDITORIAL

COMMERCIAL INTERESTS VERSUS PUBLIC RIGHTS*

As Illustrated by the Greensboro Drug Company Against Citizen S. B. Gann

Editor of the Daily News:

One of your readers wagers a three-cent stamp and the trouble of sending us a clipping from your issue of May 13 entitled, "Charge for Antitoxin Not So High After All," on the probability of our having some words with you over your attempt to exonerate the Greensboro Drug Company from having charged Mr. S. B. Gann of Stokesdale, \$46.55 for \$1.75 worth of antitoxin. The reader wins the wager.

We had not intended giving the Greensboro Drug Company further advertisement in this matter, and if the said company does not like what follows, it may hold your article responsible, or itself responsible for influencing the *Daily News* to write the article. The case of the Greensboro Drug Company against Mr. S. B. Gann would be of no importance if it concerned only a drug store and an individual, but the case has considerable importance attached to it because the parties are representative—the Greensboro Drug Company, of certain commercial interests, and Mr. S. B. Gann, of the public.

You accuse the State Board of

Health of making misrepresentations as to the prices charged for antitoxin by certain retail druggists, and you mention especially our reference to the charges for antitoxin by the Greensboro Drug Company against certain citizens of your own county. You do not dare say that our statement that the Greensboro Drug Company charged Mr. S. B. Gann \$46.55 for antitoxin that the purchaser could have secured from his State and county for \$1.75, and charged Mr. A. S. Campbell \$18 for antitoxin that he could have secured from his State and county for 50c, is a misrepresentation. That is the basic fact contained in the article that rubs your advertiser and his friends the wrong way. If that fact had been left out of the article, your advertiser would have had no complaint to make about your news item, and you know it and your readers know it; furthermore, your weak, evasive charge that we "make it appear" that retail druggists buy antitoxin at low prices and sell it at high prices is an admission on its face that you cannot be specific in your charges of misrepresentation. You come into court without a bill of particulars. You cannot put your finger upon a single sentence in the article of the April *Bulletin* that is a misrepresentation. On the other hand, we do particularize; we give details, call names, and furnish addresses. That is our offense, making responsibility personal.

There is not a single reference in

*Reply to article appearing in *Greensboro Daily News*, May 13, 1919.

the *Bulletin* article to what druggists pay for the antitoxin that they sell. That is none of our business, and it is your way of introducing irrelevant material into the controversy to befog your readers; however, since you have raised the question of cost and profit in the production and sale of antitoxin (and this was an awkward move on your part in defending your advertiser), we shall attempt to qualify as something of an expert on what it costs to make antitoxin and what H. K. Mulford & Company and the Greensboro Drug Company make in the way of profits. It was antitoxin made by H. K. Mulford & Company that was put over on Messrs. Gann & Campbell. Getting unpleasantly personal again, you note.

Until recently the State Board of Health had a contract with one of the leading antitoxin manufacturers of the United States to supply antitoxin, through the State Board of Health, to the people of North Carolina at the following rates:

Packages of 1,000 units, 50c per 1,000 units.

Packages of 3,000 units, 45c per 1,000 units.

Packages of 5,000 units, 39c per 1,000 units.

Observe that the charge for 1,000 units of antitoxin was from 39c to 50c. This charge covered, of course—

- (a) Cost of production;
- (b) Cost of syringe, package, and wrapper;
- (c) Cost of lost antitoxin through over age;
- (d) Cost of advertising and salesmanship;

and *then* gave the contracting company a satisfactory profit; otherwise, they would have made no contract. Is that clear? Compare these prices with those of the second column of the following table.

So much as to what the manufacturer can produce and distribute for. Now a few words as to the profit to the retailer for selling. The manufacturer allows the retailer an *ascending* percentage of profit, depending upon the size of the package that he induces his customer to buy. The larger the package sold, the larger the percentage of profit. For example, for selling a package of 1,000 units for \$2, the retailer gets 10 per cent, or 20c; for selling a package of 7,500 units for \$10, the retailer gets 30 per cent profit, or \$3, and between these two extremes there is a gradation in the percentage of profit.

The following table shows in the first two columns the size of the packages and the retail price of H. K. Mulford & Company's antitoxin; the third column shows, approximately, total profit per package, and the fourth and fifth columns show approximately the division of the total profit between the manufacturer and the retailer:

Units in Package	Retail Price	Total Profit	Profit to Mfr.	Profit to Retailer
1,000	\$ 2.00	\$1.50	\$1.30	\$.20
3,000	5.00	3.65	2.90	.75
5,000	7.50	5.45	3.95	1.50
7,500	10.00	7.75	4.75	3.00

All manufacturers sell their antitoxin to retailers subject to replacement with fresh antitoxin on deterioration from age. The retailer cannot lose through deterioration of stock. For example, the Greensboro Drug Company could have returned their commercial stock of antitoxin to H. K. Mulford & Company without loss to themselves and with a possible saving of \$45 to Mr. Gann.

This whole matter is just another little conflict between private and public interests, as represented, respectively, by the Greensboro Drug Company and by citizens, Gann and Campbell. Your first good impulse was with the public, and you wrote the news

item; then, the telephone, your offended advertiser, and over you went with the following conclusion: "Investigations made, however, show that the retail druggist, on the basis that he must handle it, makes only a fair rate of profit." The spirit was willing, but the flesh took the count.

SUICIDE BY TYPHOID ROUTE

The question of moral responsibility, which always arises in the minds of intelligent people in connection with cases or deaths from typhoid fever, is well developed in an editorial which appeared in the *Monthly Bulletin* of the California State Board of Health, and which is as follows:

"Approved(?) Methods of Suicide

"If the old saying that 'Silence gives consent' is sound, one may say truthfully, if cynically, that there are ways in which a man may accomplish his own destruction, not only with the tacit approval of the American public, but with some assurance of sympathy. He may not shoot himself or attempt to take poison without incurring public censure and the restraint of law. If he jumps off a ferryboat, traffic is suspended until he is rescued and turned over to the police and the newspapers for investigation. He may not turn on the gas, even in his own house, and quietly snuff out the lives of his family and himself without encountering serious penalties under the law if he fails in his purpose. But apparently these methods are condemned because they are spectacular and mess things up, not because society cares very much about the individual or his family.

"If he will go about it deliberately and with patience, he may destroy himself and his children and even their descendants, while society looks on with the single comment, 'It's his own

affair.' The tuberculosis method and the alcohol-syphilis method are examples of well known means of self-destruction of life and efficiency. There is no more logic in preventing a man from filling his heart with lead than in preventing his filling his lungs with tubercles. Bullets and consumption are about equal in their effectiveness, but it takes the latter six months or a year longer to do its work. Syphilis is no less deadly, but it may require years of insidious progress before it kills its victim.

"Why should causes of sudden death be rigidly guarded against, while the public passively permits men and women, often against their will or through ignorance, to destroy themselves by means equally certain, but less swift? It is universally conceded to be the duty of government to prevent murder in all its forms. California's 'poison law' is a wise measure, and its vigorous enforcement has saved many persons from suicide or from habits leading to things far worse than death, but it is relatively of far greater importance to society that the tenement-house law should be enforced with equal energy. The enforcement of our public health laws generally would greatly reduce the needless loss of life and health which is now going on all about us. Doubtless the time will come when society's distinction between law and license will be based upon the prevention of those things which are fatal to good health as well as to life itself.

"Legislation toward this end should not be erratic nor extreme. There should be no undue interference with personal liberty, and each advance should be safeguarded by the adoption of adequate administrative measures. On the other hand, there should be no shirking of responsibility for steady progress. We must make an end of approved methods of suicide and murder."

"THOU SHALT NOT KILL"

This means that if you take the life of a fellow-man, you will not only invoke the wrath and indignation of God, but of man as well. "A life for a life" is the penalty exacted by the civil laws of civilization. If you take the life of a brother-man, you expect the judgment and punishment of the court of man. If you destroy your own life, while you are then beyond the punishment of man, you cannot escape the judgment of that great Judge and Ruler of the Universe—God, because "The Lord giveth and the Lord taketh away. Blessed be the name of the Lord."

You can refrain from taking your own life; it belongs not to you, but to God. You can refrain from murdering your brother-man, your neighbor, your wife and your child, and to do so would be to commit a sin the stain and stigma of which, even though you escape the judgment of man, would forever hover over you like unto a black cloud casting its shadow upon the sunshine of life.

There are numerous ways of destroying life, both active and passive. You can either blow your head off with a large calibre pistol, or you can peacefully slumber upon the railroad track and wait for the flying express to do the deadly work. You may ingest a few grains of the deadly potassium cyanide and die a hurried death, or you may partake of your brother's excrement laden with *Bacillus Typhosus* and die a lingering death of six to eight weeks duration. The end results are the same. And I ask you, is it any the less a sin to die of poisoning from typhoid than from potassium cyanide? Both *can be prevented*. If you do not exercise every precaution to protect yourself and family against typhoid fever and dysentery by means of vaccination and sanitation, and a life

should be lost as the result thereof, I ask you who will be responsible? Who will be guilty of murder or manslaughter? And, remember, the day of your judgment is coming.

A. J. W.

**IGNORANCE OR CARELESSNESS
—WHICH?****Smallpox Very Prevalent in Certain Sections**

It would be interesting to know how much of unnecessary disease and death is due to ignorance, and how much to carelessness. These two factors are in such close partnership in the business of disease production that it is difficult to know which is the senior member of the firm, but in the case of smallpox, it would appear that carelessness, not ignorance, plays the leading role. We have known how to prevent smallpox for one hundred and twenty-five years. We have had an absolutely sure prevention, and yet people neglect to use it.

At present, the disease is entirely too prevalent in many sections of this State. In January, there were 132 cases reported; in February, 165 cases; and in March, 352 cases. Indications are that a still larger number of cases occurred in April. Forsyth, Guilford and Cabarrus counties had the largest number of cases, and practically all of the cases were in and around the county towns of those counties, that is, in Winston-Salem, Greensboro, and Concord. Winston-Salem has not been free from smallpox for seven months; and there have been only three months during the last sixteen months in which cases of smallpox did not occur in Winston-Salem. Moreover, it appears that Winston-Salem has probably been the distributing focus of infection for neighboring towns. Of 1,688 cases reported from the entire State

recently, 265 or more than 15 per cent were in Winston-Salem.

The practical conclusion for the intelligent person to draw from these facts are: first, that smallpox is prevalent in North Carolina to the extent that one is likely at any time to come in contact with a case of the disease on the train, in the street-car, in the store, or elsewhere; second, that if he gets vaccinated, it does not make any difference how prevalent the disease is or how prevalent it may become, or when or where or how intimately he comes in contact with a case of smallpox, he is absolutely safe. Get vaccinated! Do not take a chance. None of the 1,688 cases recently reported were vaccinated, because they believed that the probabilities of smallpox were something that concerned the other fellow and not themselves. It is the unvaccinated person that has the disease; that brings trouble to himself, to his family, and to his community, and gives a black eye to sanitary conditions in North Carolina.

WHO IS TO BLAME, GOD OR IN DIFFERENT OFFICIALS?

A lot of Masonic "resolutions of condolence and respect" begin with a bald-faced lie. The "Whereas, it has pleased Almighty God to call our dear Brother Blank from labor to reward," is a clear case of "passing the buck." It attempts to shift blame for an untimely death from the shoulders of very culpable mortals. When citizens permit unsanitary conditions to prevail and continue; when they allow the authorities to become lax and indifferent in matters that concern the health of the community, the regrettable death of an honored resident should not be attributed to the will and pleasure of the Almighty. Such resolutions should properly begin with a "*mea culpa*," for every citizen must share in the responsibility. Some time

a committee appointed by a lodge for such duty may cut loose from precedent and the stereotyped form of words, and startle the brethren with a pronouncement in this fashion:

"Whereas, the Mayor, the City Council and the health authorities of this town have criminally failed in their duty of safe-guarding the lives and health of citizens; and, whereas, this lodge has, by reason of such criminal and inexcusable neglect, been called upon to mourn the loss of our dear Brother Blank; therefore, be it Resolved, that this lodge does hereby condemn such delinquent authorities, holding them up to the reprobation of all good citizens; and be it further Resolved, that we call upon the authorities of the State, and the courts to take official cognizance of such willful neglect and misconduct." It is altogether likely that such treatment would have beneficial results. The course now adopted is not fair to God, and suffers offending men to continue in wrong-doing, while still retaining respectability and the regard of their fellows. As for Brother Blank's translation to "the Grand Lodge above," such happy consummation would be in no way interfered with by the unusual truth-telling on part of his surviving and sorrowing brethren. It might even help him through the pearly gates as proving the good quality of his late associates, and presumably his own excellent character.—*American Freemason*.

SMALLPOX VACCINATION

Smallpox is probably the oldest of all the historic epidemic diseases. Outbreaks of smallpox still occur in the United States. Smallpox can be absolutely prevented by vaccination. Every child should be vaccinated by the time it reaches the age of one year. Physicians and nurses have no other means of protecting themselves against this disease, yet they seldom contract it. Universal vaccination will banish smallpox permanently.



PUBLIC HEALTH AND SANITATION



DURHAM COUNTY LEADS THE STATE

Martin County is a Close Competitor For First Honors

Durham County has distinguished itself by leading the State with the highest death rate from typhoid fever. Durham County's death rate for 1918 was 75.6, while the death rate for the State at large during 1918 was only 23.6.

While other counties were reducing the typhoid death rate by 50 per cent Durham was trying to make up for the deficit.

Martin County takes the second honor (?) with a typhoid death rate of 72.4. Martin County should not and cannot be excused for the neglect of her citizens' health and the high typhoid death rate, but if leniency were to be shown, then Martin is less culpable than a county having a whole-time health department like Durham or Wilson counties.

The ten banner counties that are blighting the State with their typhoid records, are:

County	Typhoid Death Rate
1. Durham -----	75.6
2. Martin -----	72.4
3. Richmond -----	54.3
4. McDowell -----	49.4
5. Rockingham -----	46.7
6. Wilson -----	44.8
7. Wayne -----	44.2
8. Perquimans -----	42.8
9. Harnett -----	42.2
10. Pender -----	41.7

The time is not far distant when local health authorities will be held

responsible for an epidemic of typhoid fever. The responsibility for individual cases is going to be fixed also by the courts of the states, as is clearly indicated from a decision handed down by the Supreme Court of Wisconsin in the case of *Vennen v. Dells Lumber Company*, 154 N. W. Rep. 640 (October 26, 1915). The Supreme Court of Wisconsin decided that the death of an employee caused by typhoid fever, which was contracted by drinking impure water furnished by the employer, was the result of an "accident" under the terms of the Workmen's Compensation Law, and the person responsible for the impure water was liable for damages resulting therefrom.

A. J. W.

REDUCTION IN TYPHOID DEATH RATE

Typhoid fever is gradually on the decline in North Carolina. This fact is clearly shown by the following figures:

In 1914, 839 deaths in State from typhoid. Rate, 35.4.

In 1915, 744 deaths in State from typhoid. Rate, 31.3.

In 1916, 700 deaths in State from typhoid. Rate, 29.1.

In 1917, 626 deaths in State from typhoid. Rate, 25.7.

In 1918, 514 deaths in State from typhoid. Rate, 23.6.

This reduction is not the result of providence alone, but is due to the specific work that has been directed against typhoid fever in North Carolina by the State Board of Health. There are just three things that have

caused this reduction, namely, education of the people at large to the fact that typhoid can easily be prevented, and second, the use of this knowledge in doing the third, which is getting vaccinated and building sanitary privies.

A. J. W.

HOW TYPHOID IS CONTRACTED

Typhoid fever is due to the *Bacillus Typhosus*, a small germ that lives in the bowels of human beings.

These germs of typhoid are found in all the discharges that come from people who have typhoid fever, the ones actually sick, and in the discharges of some who have had the disease but have recovered. There is recorded a case of a man who continued to discharge the typhoid germ from his bowels forty years after he had recovered from the disease. A great many people have mild cases of typhoid fever and do not know it. They are not sick enough to go to bed, and the doctor is rarely called to see the case. This mild type is the most dangerous, because they probably travel from place to place and do not take any precautions to prevent the spread of the disease.

If the typhoid germ lives only in the bowel of human beings, then for you to have typhoid fever you must partake of the bowel discharges of some other person. How does this human filth containing typhoid germs get into your mouth? There are just three principal ways: first, through water; second, by personal contact; and third, by FLIES. Of these three, which one is the usual or most common route of infection? Let's reason a bit and see. If the first or the water route were the most common, we would expect the disease to be most prevalent during the winter and spring, when the rainfall is heaviest and the earth is saturated with moisture. If the personal contact route

were the most ordinary, then we would expect to have typhoid distributed more or less evenly throughout the year, probably reaching its maximum during the cold winter months, because human contact is about the same throughout the year, probably a little closer during the winter. If the third or the FLY route were the prevailing route of infection, then we would expect to have typhoid most common during the FLY season, from April to September. And that is just what happens. During the winter and spring we have little or no typhoid. But with the coming of hot weather and FLIES come typhoid and dysentery.

If the FLY is the chief factor in the distribution and transmission of typhoid fever, how does he carry the germ and how do we get it from him? The answer to this question goes directly back to the problem that the State is now dealing with, the open-back, insanitary privy. Flies lay their eggs and live only in some form of filth. They prefer stable manure, and next to that they would choose human excrement. They not only live in human excrement, but they feed on it. The entire body surface, and especially the legs of the fly, is covered with fine, stiff hairs so that when a fly lights upon and crawls upon filth, especially human excrement, his body surface and legs accumulate quite a bit of the excrement which he, of course, brings along with him when he comes in the dining-room at meal time. And as he walks proudly and gallantly about upon the butter, the biscuit, and other food, he, of course, leaves in his wake a small portion of the human excrement he has so graciously brought in. You remember the first thing the fly did yesterday when he so gracefully perched himself upon the butter just as you were preparing to serve yourself a portion? I did not see him, but

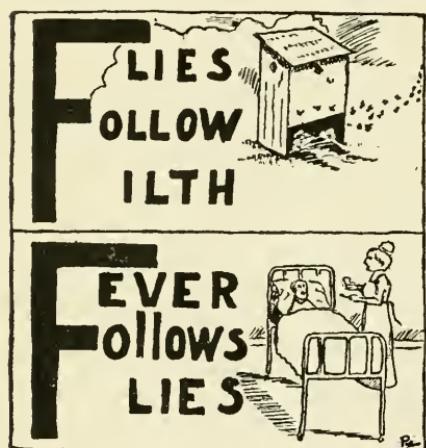
I know what he did. His first act was to vigorously rub his two front legs, one against the other. And did you ever stop to think why he did it? He did it for the same reason that you use the door mat to cleanse your feet before entering the house, to rid his feet of accumulated filth so that he might walk with more comfort. So if you allow Mr. Fly to use your food as a door mat to rid his body and feet of the filth, and especially human filth, then you can expect typhoid fever and dysentery and "summer complaint." If you give him an inch, he will take a yard. He will not only use your food

phoid germs through careless habits and the indiscriminate disposition of human excrement in the vicinity of the source of water supply. This, again, reverts back to the homes that have open-back, insanitary surface closets, and to homes that have no toilet whatsoever. Human excrement deposited upon the surface of the ground will be carried, during a rain, by the surface water into the spring or well. Most people have the idea that wells are polluted by the excrement filtering through the earth, and entering the well several feet below the surface, but this is not the usual occurrence. It enters the well from the ground surface around the curb. It also gets into the well as a result of dogs and chickens with excrement on their feet, walking about upon the platform of the well, where some of the excrement is deposited and later washed through the cracks between the planks, into the well; also by dirty hands handling the well bucket and rope, which go directly into the water. All open wells are a constant menace to your health. Springs are particularly dangerous, because they are usually located in a low place and the surface water from the bushes and surrounding territory sweeps over it.

Now is the time to safeguard the health of your family by making safe your water supply. If you don't know how, write the State Board of Health, Raleigh, for information, which will be gladly furnished. A. J. W.

PLAN FOR DEALING WITH TYPHOID

During the summer months the State Board of Health is going to conduct a typhoid vaccination campaign in thirty counties of the State. The first thirty counties applying will be the thirty that will be selected. The State Board of Health will conduct and assume the entire responsibility



and the baby's mouth and face for a door mat, but as a cuspidor as well. After banqueting upon human excrement containing the germs of typhoid and dysentery, he repairs to the dining-room or to the baby's crib, and after cleansing his feet, his next act is to relieve his stomach of a portion of its crowded contents. The result is "FLY SPECKS." A tiny, black "FLY SPECK" might, in a few weeks time, grow into the black veil of death. So beware!

Are you still a friend and advocate of the fly, your most deadly enemy?

Water contamination: Your drinking-water gets contaminated with ty-

of the campaigns in these thirty counties. The only requirements necessary for your county to be one of the thirty is for your county commissioners to agree to pay to the State Board of Health the sum of 12½ cents for each complete vaccination done in your county. So if your county is not among the list of those who applied, and you have a case of typhoid in your home or an epidemic in your county, you may know that your county commissioners failed in their public responsibilities. If your county commissioners should fail to give you this protection for 12½ cents, then do not yourself fail in your own moral responsibility by neglecting to be vaccinated. Go at once to your family physician and have him vaccinate you against typhoid.

In addition to the vaccination campaign, the State is going to attack typhoid fever from another angle. The State Board of Health is going to strike a blow that will fall at the most strategic and vital point of the typhoid fever problem. A victory for the State Board of Health and a crushing defeat for typhoid fever is certain to be the result. No armistice will be granted. Nothing short of complete annihilation of typhoid fever will satisfy the State in this "Battle to a finish." This great annihilating wave against typhoid fever is going to be the enforcement of the state-wide sanitary privy ordinance.

A. J. W.

A TYPHOID TRAGEDY

Up in the country a professional nurse, sent to take care of a bad typhoid case, suspected the dear old family well.

Pending an analysis, she ordered all the drinking-water boiled. The intelligent family thought this was all nonsense. Besides, they resented any aspersions on the well. It had been good

enough for grandfather and so on. So they substituted unboiled water for the sterilized stuff when nurse was not looking, and so had the laugh on that scientific smarty. It was a joke on her all right; for later she died of typhoid fever as did also her patient and three other members of the funny family.

TWO TOWNS

Mr. Billy Jolly of Bumtown, dropped an orange peel on the sidewalk. His fellow-citizen, Mr. Bob Ernest, stepped on it, broke his leg, and was laid up for three months with no accident insurance policy to help out. Neither Billy nor Bob knew that it was Billy's fault; in fact, Billy did not remember he had dropped an orange peel. He never thought about such things. He was a good-hearted fellow at bottom, fond of Bob, and both put the whole blame on the orange peel. If Billy had known the truth, it would have been a terrible lesson for him, and Bob would have been obliged in his heart of hearts to blame Billy for doing such a fool trick. Of course, no one blames those who did not kick the orange peel off the sidewalk before it got in its work.

Mrs. Ownway, also of Bumtown, let little Jack play on the sidewalk when his sister, Ethel, had the diphtheria; little Jenny Lovejoy, from the other side of town, stopped to speak to Jack, and now little Jenny is dead. Mrs. Ownway had said she really hadn't the heart to keep Jack so closely confined when he was perfectly well, and that this foolish quarantine was so perfectly unnecessary. Of course, Mrs. Ownway really killed little Jenny; but she didn't know it, and Mrs. Lovejoy didn't know it. Mrs. Ownway was terribly distressed, wrote Mrs. Lovejoy a sweet letter of condolence, and sent a bunch of lilies of the valley for the little coffin. The two mothers

agreed that these germ diseases were awful and that the blame was on the germ. Mrs. Lovejoy did not blame anybody and Mrs. Ownway felt no personal responsibility.

That was the way in Bumtown, which, by the way, had a very high death rate, especially among children, and for communicable and intestinal diseases.

Bumtown was inhabited by some of the best people in the State, kindly, accommodating and easy-going. They had excellent sanitary regulations all printed out in plain English on paper, and most of them could read. They would not have hurt a fly, and, in fact, they seldom did. It was the business of the town government and the health officers, armed with these nice laws, to bring health to Bumtown. The citizens felt no responsibility individually or collectively. But the city government was composed of good, kindly, fairly intelligent, average citizens, who were elected to give a nice, quiet, neighborly government to Bumtown, and who honestly tried to do so. "Laws were not to be taken too seriously; to enforce these sanitary laws strictly might offend some of our best citizens. We are getting on very well." So said they all.

No citizen, meanwhile, complained of the lack of law enforcement, or saw in it a cause of the high death rate. If any one was shot, the shooter was promptly punished. The shootee knew he was hurt and who hurt him, and immediately got busy. The government and the citizens were opposed to open crimes of violence that endanger the lives of innocent people. But, when it came to sanitary matters, nobody made any fuss. It would not be nice or popular. As to the death rate, they were sure there was some mistake about it. They said they liked a quiet life. But, as they continued to die, it rather looked as though many of

them preferred death and an early one. Still, if one looked carefully, he would have observed that the very best citizens spit on the sidewalks, that food was sold under most unsanitary conditions (even candy was handled with dirty hands and soda fountains were vile), that the sections in which the servants lived who served the food were refused proper water and sewerage facilities, that flies were bred in stables permitted to be run under conditions contrary to law, that for the servants a vile surface privy on the lot was considered good enough, and above and beyond all, that press and pulpit were silent on the moral responsibility of each man for the health of his neighbor.

The story of Goodtown is less eventful, because nothing happened. Mr. Bob Jolly went there on a visit, to be sure, and dropped an orange peel on the sidewalk, but Mr. Aristides Faithful came along and kicked it off. Nobody was hurt. Nobody felt grateful for not being hurt. Mr. Faithful did not know whether he had saved any one or not, and, if he thought he had, there was the whole town to choose from.

Mrs. Ownway, who had not developed diphtheria but who proved to be a carrier, also visited Goodtown as soon as little Ethel was discharged. Strange to say, a child in the house she visited soon had diphtheria. But they at once administered the proper treatment, gave every one in the house the antitoxin, and observed the strictest quarantine in spite of the inconvenience. Therefore, no one else got it and the invalid was soon well.

So it was with sporadic cases of several other communicable diseases. They seldom got beyond the first case. Everybody cheerfully obeyed the laws and backed up the doctors and health officers. Goodtown people did not have typhoid. They knew that, in plain

language, it came from swallowing the excrement of other people, and they did not think it was nice. Besides, it was so unnecessary. They actually insisted on the strictest enforcement of the sanitary regulations (which Bumtown had adopted word for word) and, besides, they all took the anti-typhoid vaccination every few years. They insisted on this for all who handled food, raw or cooked food, in public or in private houses. Any one who had typhoid in Goodtown brought it with him; in fact, this is what worried Goodtown. Being a delightful, healthy town, it attracted many visitors from the best people in many of the finest cities of the State, and soon after arriving, some of them had typhoid. They blamed Goodtown. Goodtown loathed them and doubted their intelligence, their Christianity, and their patriotism. They nursed them carefully and pulled most of them through. Some of them died, and for these they wrote nice obituaries and tried to respect their memories.

The city government of Goodtown had no easy time. They had to fight some of the oldest citizens, but they well knew that that was what they were elected for, and that failure to enforce the law strictly on every one would surely prevent their reëlection. The press fearlessly told the whole truth about health conditions and violations of law. The pulpit joined with the press in preaching that any one was a fool who did not look out for the health of others for his own sake, and no Christian if he did not do so for the sake of others. Hence, every one felt a conscientious responsibility for the life and health of every one else, everybody loved everybody, and the life insurance companies just loved the town.

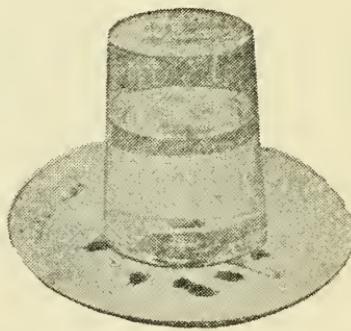
Which town would you prefer to live in? Like which town are you trying to make your town?

RECIPES FOR KILLING FLIES

The United States Government makes the following suggestion for the destruction of house flies: Formaldehyde and sodium salicylate are the two best fly poisons. Both are superior to arsenic. They have their advantages for household use. They are not a poison to children, they are convenient to handle, their dilutions are simple and they attract the flies.

Preparation of Solutions

A formaldehyde solution of approximately the correct strength may be made by adding three teaspoonfuls of the concentrated formaldehyde solution, commercially known as formalin, to a pint of water. Similarly, the proper concentration of sodium salicylate may be obtained by dissolving three teaspoonfuls of the pure chemical (a powder) to a pint of water.



A container such as shown above has been found convenient for automatically keeping the solution always available for flies to drink. An ordinary, thin-walled drinking glass is filled or partially filled with the solution. A saucer, or small plate, in which is placed a piece of WHITE blotting paper cut the size of the dish, is put bottom up over the glass. The whole is then quickly inverted, a match placed under the edge of the glass, and the container is ready for use. As the solution dries out of the saucer the

liquid seal at the edge of the glass is broken and more liquid flows into the lower receptacle. Thus the paper is always kept moist.

Other Simple Preventives

Any odor pleasing to man is offensive to the fly, and *vice versa*, and will drive them away.

Take five cents worth of oil of lavender, mix it with the same quantity of water, put in a common glass atomizer and spray it around the rooms where flies are. In the dining-room spray it lavishly, even on the table linen. The odor is very disagreeable to flies but refreshing to most people.

Geranium, mignonette, heliotrope and white clover are offensive to flies. They especially dislike the odor of honeysuckle and hop blossoms.

According to a French scientist, flies have intense hatred for the color blue. Rooms decorated in blue will help to keep out the flies.

Mix together one tablespoon of cream, one of ground black pepper and one of brown sugar. This mixture is poisonous to flies. Put in a saucer, darken the room, except one window, and in that set the saucer.

To clear the house of flies, burn pyrethrum powder. This stupefies the flies, but they must be SWEPT UP and BURNED.

CANCER—A CURABLE DISEASE

What knowledge has done for tuberculosis, knowledge will do for cancer. The greatest difficulty encountered in the past has been the hesitancy of those afflicted with beginning cancer to seek medical advice because of their dread of having their fears confirmed. They have believed that cancer was a loathsome disease, something to be ashamed of, and therefore kept secret until it had progressed too far for cure.

Now, however, light has been turned on the problem, and we find the progressive men and women of the day eager for knowledge of the cause and cure of this malady.

Another cause of delay in securing proper treatment has been the common dread of operation. This dread of an operation will unquestionably be overcome when the public can be made to appreciate the fact that the disease is of local origin and that in its early stages prospects of complete cure are excellent.

The statements in this article are based on the publications of the Cancer Society as authorized by its National Council, which includes many of the foremost American physicians, surgeons and pathologists.

What Cancer Is

Cancer is a lawless growth of body cells which destroys life if allowed to run its course. In the beginning the cancer is limited to one spot, and, while so localized, can easily be cured. Unless controlled it next invades the surrounding tissues and, if allowed to run its course, some of the cells of which the cancer is composed are thrown off and carried by the blood or lymph vessels to other parts of the body, where they start secondary growths.

When this stage is reached, the cancer is beyond control and there is less hope of cure.

Theoretically every case of cancer can be cured by removing the growth from the body while it is confined to the single cell or microscopic group of cells in which it begins. There are, of course, cases in which no symptoms attract the attention of the patient until the tumor has developed beyond the operable stage, or in which the location of the cancer is inaccessible to present surgical skill, as, for example, in the middle of the liver. Such cases are, however, comparatively rare, and

fortunately warning signs are almost always given when the disease attacks the common sites, as the breast, uterus, stomach, intestines or rectum, and growths in these organs can be successfully removed in the early stages.

Cause of Cancer

Nothing definite with regard to the ultimate cause of cancer is at present known in the way that the specific causes of tuberculosis and other diseases are known; nor is it to be assumed that there is a single specific causative agent of cancer. We have, however, knowledge of certain agents and conditions which exert a direct influence in the formation of a cancer.

When, for example, a part of the body is subjected to repeated irritation until a sore or ulceration is produced and that sore or ulceration is allowed to remain unhealed and the irritation continued, a cancer frequently results. Nearly all moles and warts are harmless and remain so, but occasionally one may take on an increased activity as a result of irritation or of some unknown cause and become malignant.

The essential points to be remembered are, therefore, the avoidance of all chronic irritation such as may occur from eyeglasses, a badly fitting dental plate, broken or jagged teeth, etc., and if a sore or ulceration does form as a result of such irritation to have it promptly cured.

Is Cancer Hereditary?

The evidence of statistics is against the popular idea that cancer is hereditary. Practical confirmation of this evidence is furnished by the stand taken by life insurance companies. These companies ignore a family history of cancer in issuing policies because their statistics show that the chance of an individual's developing cancer is not increased by there being cancer cases in the family.

Is Cancer Contagious?

Cancer is not contagious or infec-

tious. Among the thousands of operations for cancer on record there is no report of a case acquired from the patient by any surgeon or nurse. Ordinary care and cleanliness should be observed in attending cancer patients, but isolation and fumigation, as in the case of contagious diseases, is unnecessary.

Investigation of "cancer houses," "villages," or "streets," wherein an unusual number of cancer cases have been said to occur, has invariably shown that the apparently high mortality has been due to special conditions, such as an unusual proportion of old people, among whom the cancer death-rate would naturally be high.

Cancer of the Breast

The most significant warning of cancer of the breast is a lump. If a nodule, lump or hard area is found in the breast, it may not be cancer, but it should be brought at once to the attention of a physician. Such lumps should not be rubbed or manipulated because of the danger, if the lump proves to be cancer, of scattering the cancer cells throughout the system.

Cancer of the breast is one of the most hopeful and curable forms of the disease because of the ease of early diagnosis and of its removal. Any lump in the breast is vitally important, whether painful or not, and demands a medical examination. Retraction of the nipple and nodules under the arm are later symptoms.

Cancer of the Uterus

This is a frequent form of the disease, but fortunately one in which early diagnosis is easy and removal is usually possible. The two danger signs to be remembered in regard to cancer of the uterus are (1) any *change* in the vaginal discharge and (2) any *change* in the menstruation. These should not be considered as positive symptoms of cancer, but only as warn-

ing signs that should send the patient to a surgeon *for an examination.*

Excessive flowing at *any period of life* is abnormal and should be immediately investigated. Treatment without an examination is wrong and, by causing delay, may forfeit the patient's chance for cure should cancer exist.

Cancer of the Digestive Organs

About thirty per cent of all deaths from cancer are caused by cancers of the stomach, intestines and liver. These are formidable types of the disease, but can, in many cases, be successfully treated *if the diagnosis is made early enough.* The earliest possible attention to the danger signals is of the greatest importance and, since cancer of these organs cannot be seen, a very thorough examination should be made by the use of the latest and most approved diagnosis methods. The danger signals of these cancers are persistent indigestion, vomiting and pain at the pit of the stomach.

The danger signal of cancer of the rectum is the passage of blood. There may be either constipation or diarrhea. These symptoms are frequently caused by hemorrhoids, but on the appearance of such symptoms an examination should in every case be made.

External Cancer

Cancer of the skin frequently originates in old warts, pigmented moles and unhealed wounds, scars and sores. Most warts and moles are unimportant, but those which change in size, shape or appearance or are subject to irritation should be regarded with suspicion.

In the beginning, cancer of the lip often resembles the common cold sore. Any ulceration of the lip or tongue that does not quickly heal should be seen by a surgeon. Competent treatment of the conditions which are liable to become cancer and of the actual disease in its early stage generally

means a minor operation or the use of X-Rays or radium.

Radium and X-Rays

These methods of treatment are of definite usefulness, especially in certain types of superficial cancer, such as those which appear on the skin. In some cases they are of use following an operation. They are also a recognized treatment for cancer which has gone so far that it cannot be operated upon. In an increasing group of cases in which the cancer is comparatively inaccessible, or in which there is some contraindication to operation, radium is being used with success.

Only a few doctors have enough radium for proper treatment and only a few know how to administer it safely.

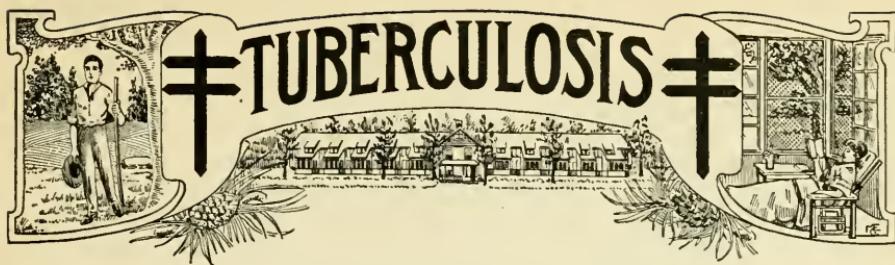
Fake Cures and Quacks

Every "cancer cure" advertisement is a swindle, and the use of valueless medicines and preparations means waste of money and time. Testimonials of advertising "specialists" and "institutes" are either fabrications or are based, in all probability, on the removal of conditions which were not cancer at all.—*Woman's Magazine.*

Periodical Physical Examinations

Among the many valuable things emphasized by public-health workers within the past few years is the necessity for periodical physical examinations for all persons. There are many serious diseases whose beginnings are insidious and not noticeable to the average person. If such diseases are recognized in time, many such conditions can be arrested or improved by proper treatment.

The practice of having periodical physical examinations at intervals of six months or one year is to be strongly recommended to every person interested in the preservation of health. Consult your family physician about it.



CARRY ON!

If You Are Not Fit to Fight, Fight to Get Fit!

L. B. McBRAYER

All men disqualified for military service on account of tuberculosis and all men, women and children that have been or may be attacked by this disease are hereby called upon to enlist in the fight against this insidious foe.

If you don't enlist, you will be drafted—BY DEATH.

Offer your services again, disabled man or woman. Not to our army or our navy, for our medical corps—all praise to them for their gallant and effective work—have already decided that you are disqualified for such service; and such decision, with the conditions found, is of record in the War Department.

Yet you have an opportunity to do your bit in making the world "safe for democracy," which means, among other things, "equality of opportunity for health." You can still be a hero and a patriot, you can still fight the fight of a true soldier, and the next "greatest" war since we have conquered the Germans, is the war against tuberculosis.

Your country needs you, your friends need you, and most of all your loved ones need you, for it is for the protection of your own home, your own family, that you are called upon to enlist. It is an ascertained clinical fact that 80 per cent of all the cases of tuberculosis occur in the family where there has been a previous case.

and 12 per cent more occur next door, leaving only 8 per cent to occur from other than close contact.

Your own body is a very important sector of the battle front, where to you the most important battle must be fought, which compared with Verdun, Kemmel Hill, Chateau Thierry and the Hindenburg Line, makes them look insignificant, at least to you.

Trained soldiers needed! When our government went to war with Germany she went through the following steps: (1) decided to make the fight; (2) mobilized our forces; (3) trained them; (4) proceeded to lick Germany. The fight against tuberculosis in your own body must be carried out in the same way if you desire to win.

You too must decide to make the fight, for without this decision you have lost already; and for you to lose in this fight means death for you. The decision once made must become the ruling passion of your life; nothing must be allowed to turn you away for a moment from the purpose in hand.

You too must mobilize your forces. The forces that are to win the battle are your white cells, and in this instance they are already on the job and so well trained that you would think they acted automatically when a tubercle bacillus gained entrance into your body. Pages could be written describing how these soldiers (white cells) whose duty it is to protect you from tuberculosis and other diseases act, but in this instance, quite different from our condition when we went to war with Germany, it is the captain, *yourself*, that needs to become the *trained soldier*.

When our nation decided to make the fight against Germany it sent its soldiers to training camps and its officers to training camps, and gave them intensive training over a period of months. If you expect to win the fight against tuberculosis you must go to an officers' training camp, where you can learn the "rules of the game" by *doing it*.

The training camp in the fight against tuberculosis is the SANATORIUM; and in addition to teaching you the rules of the game, the medical staff and the nurses will for the time being act as generals for you and see to it that you have whatever help may be needed in getting your soldiers (white cells) into fighting order. If the doctor finds a shell hole (a cavity in your lung) he will help your soldiers to surround it and wall it off. He will help your soldiers to capture the germs and destroy them. In order to make your soldiers "fit to fight" the doctor will have you husband your resources just as Hoover did, stop wasting your vitality. As a means to this end he will have you spend all your time in the open air, rest systematically all the time if needed, and take such food as may be best suited to bring about the desired end.

The first thing we did when we went into the fight with Germany was to see to it that General Foch was put in command of the allied armies. We will all agree that had the allied armies instead been placed in France and Belgium and the captain of every company told, "now go to it," there would not one of our soldiers have been left to tell the tale. But with every company of every army acting under General Foch the rout came to the Germans. And so it is in the fight against tuberculosis: you are the captain, you must command your company (composed of white cells), but you must receive and obey, just as implicitly and faithfully as the captains in France,

the orders from the general commanding—your doctor.

If it be impossible for you to go to a sanatorium, then you can do the next best thing—you can enlist under a general (a good doctor), stay with him through life, and get such additional instructions from the Bureau of Tuberculosis of the State Board of Health, Sanatorium, N. C., as are to be had on the subject.

If you are uninformed as to whether or not the enemy is invading your body, secure an examination by a competent physician, and when informed—**CARRY ON!**

DIARRHEAL DISEASES OF CHILDREN WIDESPREAD IN STATE. NOT CAUSED BY INFLUENZA.

The diarrheal diseases of children, commonly known as summer bowel complaints, are being reported from many sections of North Carolina. The State Board of Health states that this class of diseases is not caused by influenza, as is being commonly reported, and that there is no direct connection between the two infections. Infant diarrhea is an infectious disease and is caused this year, as it has always been caused, by improper feeding and lack of sanitation about the home. Errors of diet are mainly responsible for starting the condition which is a serious one and kills more than 2,600 babies each year; a diet containing too much sugar (proprietary foods, as a rule, come under this class) being the most usual cause. Too much sugar upsets the baby's digestive tract and predisposes to the infectious forms of diarrhea which are transmitted by flies from open privies and soiled napkins or spread by strawberries and other vegetables.

The State Board of Health will be glad to send literature regarding the disease and its prevention to any one writing for it.

B. E. N.

